THE GENESEE FARMER.

Agriculture is the most Healthy and Honorable, as it is the most Natural and Useful pursuit of Man.

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THE ANALYSIS AND STUDY OF GRASSES.

VERY few farmers duly appreciate the value of grass when turned to the best possible account. Broad acres have been too cheap, with their almost spontaneous herbage ready to be cropped by the domesticated animals of man, in this country, for him to study closely how to make two spires grow where only one grew before. In all the older States, however, this native abundance of nutritious forage and grazing is either gone or fast departing, never to return except through the art and science of the husbandman. The time has come when the study of the grasses is called for by every consideration of private interest and the public good.

In his account of the "Geographical Distribution of Grasses," SCHOUW remarks: "PERSOON's *Synopsis* contains 812 species — 1-26th part of all the plants therein enumerated. In the system of RŒMER and SHELTES there are 1800; and since this work, were it brought to a conclusion, the family would probably contain *forty thousand* in all." This learned author adds: "The distribution of cultivated grasses is one of the most interesting of all subjects. It is determined not merely by climate, but depends on the civilization, industry, and traffic of the people, and often on historical events." The herdsmen of Switzerland find pastures for their cattle on mountain slopes above the range of forests; and the same is true on the high plateau of Central Asia.* One of the most valuable books for reference, on this and all kindred topics, is Prof. LINDLEY's "Vegetable Kingdom"—a work which will pay well to re-print in this country. Prof. EMMONS has given the results of his analyses of several varieties of grasses grown in the United States, and of red and white clover, in his "Agriculture of New York," which furnish many new and valuable facts. On page 70, Vol. 2, he says:

"TIMOTHY GRASS. *(Phleum pratensis.)* — First specimen, collected May 20, 1848. Stalk 24 inches long, head not visible.

PROPORTIONS — Stalk,	65.30	
Leaf,	34.70	
	100.00	
Water in stalk,		81.00
Dry matter,		17.80
Ash,		1.20
Ash calculated dry,		6.74
Water in the leaf,		75.00
Dry matter,		23.00
Ash,		2.00
Ash calculated dry,		8.69
Water in the whole plant,		78.00
Dry matter in the whole plant,		20.46
Ash, " " "		1.60
Ash calculated dry,		7.82"

As specimen No. 2 varies little from the above, we omit it. 100 parts of the ash of timothy hay gave the following results:

Silica,	41.650
Phosphates,	16.925
Carbonate of lime,	0.200
Magnesia,	0.500
Potash,	30.760
Soda,	1.020
Soluble silica,	0.200
Chloride of sodium,	2.490
Sulphuric acid,	4.130
	97.875

By the above figures it will be seen that over 72 per cent. of the earthy matter removed from a meadow or pasture in the plant called timothy, is silica and potash — both of which are of course dissolved in water before they enter the roots of the plant. The stems of all grasses are large consumers of these minerals, which in a soluble condition are seldom abundant in any soil. As in wheat, rye, oats, barley, and maize straw, the quantity of ash varies considerably in different samples grown on unlike soils, so in timothy, red top, orchard, and other cultivated grasses, the proportion of earthy matter varies in an equal degree. Nearly all meadows contain several species of this numerous family of social plants, besides more or less of clover. Probably 6 per cent. of ash per 100 lbs. of dry hay will be a fair estimate. This gives 120 lbs. per ton of hay removed from the soil.

The ash of RED TOP *(Agrostis Vulgaris)* differs essentially from that of timothy. It contains much less potash and far more lime, as the following analysis by Prof. EMMONS indicates:

Silica,	41.90
Phosphates,	13.75
Potash,	4.92
Chloride sodium, (salt,)	2.00
Carbonate of lime,	10.03
Magnesia,	6.64
Soda,	9.61
Organic matter,	2.35
Sulphuric acid,	7.30
	98.50

From the quantity of lime, sulphuric acid, and soda in the above ash, it is apparent that gypsum and

* See Humboldt's Travels, Vol. 3d.

common salt in addition to wood ashes, will be of great service on red top meadows. Salt and plaster are exceedingly valuable articles to mix with all stable and barn-yard manure, as well as with night soil, before their application to the land.

A luxuriant plant of Spear Grass, *(Poa pratensis,)* sometimes called herds grass, just headed out, gave of

Water,	81.564
Dry matter,	18.436
Ash,	2.267
Ash calculated dry,	12.296

ANALYSIS OF ASH FROM WELL DRIED HAY.

Silica,	56.320
Phosphates,	14.980
Carbonate of lime,	3.540
Potash,	15.624
Soda,	6.828
Magnesia,	1.996
Sulphuric acid,	0.200
Chlorine,	0.863
	100.351

Another specimen gave the following results, which Prof. E. suggests may be a fairer average sample of *poa pratensis* than the above :

Silica,	43.300
Phosphates,	11.650
Lime,	0.030
Magnesia,	trace.
Potash,	3.531
Soda,	12.505
Sodium,	4.180
Chlorine,	6.365
Sulphuric acid,	5.156
Organic acid,	4.400
	98.186

The quantity of chlorine, soda, and sodium, (all of which are common salt,) in the above deserves attention. The almost total absence of lime is remarkable. We respectfully suggest to farmers to try the easy experiment of sowing broad-cast about two bushels of salt on an acre as an experiment, applying it five weeks before haying time. It will be more likely to benefit dry than wet meadows. Two bushels of salt and two of wood ashes, unleached, will doubtless pay well for the expense incurred.

In former volumes of this journal we have frequently taken occasion to say, from our personal observation, that young clover, young corn, and other plants cut for soiling, should be partially dried before feeding. The following results bear upon that question. Red clover gathered when nine inches high, contained

Water in the stem,	88.30
Dry matter,	10.95
Ash,	0.75
Ash calculated dry,	6.85
Water in the leaf,	71.00
Dry matter,	20.00
Ash,	2.00
Ash calculated dry,	10.00
Water in *leaf and stalk*,	84.15
Dry matter,	14.48
Ash,	1.37
Ash calculated dry,	9.46
Ash in a ton,	211.68 lbs.

All plants, when young and growing rapidly, contain a large amount of water to facilitate the circulation of their aliment. There is more water in 100 pounds of young clover or corn than in a like weight of blood. In the arterial blood of a horse there is about 76 per cent. of water; in that drawn from a vein a little less, say 757.251 in 1000 parts. To keep horses, cows, working oxen, and sheep in health, and provide for them a generous supply of food, are objects of great importance to the farmer. Science will aid him much in this department of his great profession, if he will not treat her with rudeness or neglect.

S. W.'S NOTES FOR THE MONTH.

Our Winter Trade.—A correspondent of the Syracuse Star, in his statistical notices of freight coming from the east, to go via Geneva and the Erie Railroad to New York during the month of February, has omitted to include some hundred tons of whiskey, pork, cotton and woolen goods, &c., &c., which has gone by water from Waterloo to Geneva, whence the loaded boats were towed by steamer direct to the railroad depot at the head of Seneca Lake. Heavy goods, sugar, molasses, &c., are now brought by the Erie Railroad Company, from New York to Geneva, at 48 cts. per 100 lbs. The spring trade is thus early being supplied by this route, to the discouragement of our canal boatmen, many of whom are now bound to California.

Ireland and the Irish.—From the great rush of Irish emigrants into the United States, one would naturally suppose that Ireland was over peopled. So far from it, Carlysle tells us what a beautiful country Ireland might be; but alas, says he, "it carries on it, as the surface of the earth ever does, inefaceably legible, the physiognomy of the people that inhabit it—a people of holed breeches, dirty faces, ill roofed huts—a people of impetuosity and levity—of vehemence; impatient, imperfect, fitful industry; imperfect, fitful veracity." * * * "Vigorous corn, but thistles and docks equally vigorous; ulcers of easily reclaimed bog, lying black, and miry, and abominable, at intervals of a few miles; no tree shading you; with fences as it were soliciting the cattle to be so good as not to come through—by no means a beautiful country just now! but it tells all men how beautiful it might be." He advises all those patriots who talk about dying for Ireland, to reflect upon the better policy of living for it—"let them at least plant one tree each. That eight millions of persons will be persuaded to plant each his tree, we do not expect just yet; but do thou, my friend, in silence go and plant thine."

The Fever for Gold.—One day last week, about $6,000 of the new gold coin was received in this village, fresh from the mint. This was the gross earnings of three individuals lately returned from a year's voyage to California. Their less fortunate associates were left behind to enjoy as they could their various health and fortune—the poorest and sickest buoyed up by that ever blessed hope, which the philosophic Hume said was worth a thousand pounds a year! The sight of these money bags, for the time being, turned every head—nothing was talked of, thought of, or dreamed of, but fitting out or setting out for the El dorado! Woe to that croaker who dared to speak of the uncertainty of the diggers' gains, the certainty of privation and sickness and suffering, as every eye was blind, every ear deaf, and the mind impassive to all the hindrances and positive evils that stood in the way of the glittering pile? All accounts agree that from the east, the north, the south, and the far west, at this time the migrating army of gold diggers is greater than ever; still greater, perhaps, than the host of crusaders that followed Peter the hermit to the holy land!

SOCIETY IN NEW YORK. — That *unique* and original weekly, the Home Journal, is translating DE TROBRIAND'S articles on fashionable life in New York. The accomplished *reducteur* makes the New York ball a very poor affair, intellectually, as compared with the *reunions* of Paris. He says that the "young American, on his entrance into society, has often but one recommendation, the talent with which his tailor has endowed the cut of his coat." Also, that a man of mature age "is isolated in the gay throng, meeting rarely a woman worth seeing or talking to, and more rarely still a woman who finds as much charm in conversation as in waltzing — he soon gives it up, and balancing one ennui against another, he prefers that which does not give him the trouble of dressing, and which he can find weapons to contend with at home — pen or books, if his mind is active, and sleep if he has no faculty for anything but business."

THE SEASON. — This has been one of the most open, mild winters, known for many a year. The first snow fell early, and in the mud; this froze hard, making a good bottom for subsequent snows. No one here remembers a winter with so many weeks good sleighing during moderate weather and frequent rains. Our farmers are now hauling out their manure, a much easier process in cold, stimulating, March weather, than under an enervating April or May sun, to say nothing of the gain in time, from the lack of which, when too much work is crowded together, more than one field has had to go half tilled. An amateur farmer here has been occasionally, all winter, hauling manure from our livery stables to his little sandy farm. It may be said that he cleaned the Augean, as he went to the bottom of a hole or swale at the back of a range of stables, taking up the nitrogenous matter which, like guano, was improved by age and concentration. *Waterloo, March*, 1850.

SALT AND ARSENIC.

MESSRS. EDITORS :—In the January number of your most valuable paper appear two articles reccommending the general use of salt as a manure, with the addition of a little *arsenic* when the land is infected to any extent with wire-worms and other destructive vermin. As your correspondents are not sufficiently explicit as regards the use of the latter article, permit me to inquire whether a larger quantity than that spoken of by Mr. PARK of Gates, in his first article, would not more effectually attain the desired object? That gentleman says he applied the small proportion of two pounds of arsenic to two barrels of salt. Now, as arsenic is not a dear article, I would be obliged if Dr. LEE would inform me if it contains any properties which could possibly have an injurious effect on vegetation. In Mr. PARK'S second article, in the same paper, he says that a *peck* might be sown advantageously, but does not say on how much land to apply that quantity. I presume an acre — quite different from *two pounds*. If assured that arsenic would not have a bad effect, I would be disposed to make a trial of its virtues, or rather *poisons*. With due care, no danger to cattle need be apprehended.

I would thank Mr. PARK on behalf, I doubt not, of many of your readers, for his interesting articles referred to. We of the Cataract county would be happy to hear from him again on the same, or any other subject. R. H. J.—*Lockport, Feb'y*, 1850.

Wheat Husbandry.

ON SMUT IN WHEAT, AND THE CAUSE OF IT.

NUMBER III.

IN my former articles I gave a statement of facts. A leisure moment affords me an opportunity of giving my *theory*, founded on those facts.

I suppose the smut bug (or its precedent worm) to remain in the ground in a torpid state, during the winter, like the common fruit curculio. When the spring opens with sufficient warmth, it revives and commences its work of destruction by attacking the *roots* of the young wheat. I am led to believe this the more readily because, as stated in my first article, I have invariably found the vitality of the roots of the smut wheat destroyed by some worm or insect; and I can imagine none so likely to *commence* the destructive process as that which *completes* it, by its operations on the grains in the ear. It therefore probably feeds on the bark, or outer covering of the roots, until the time of the earing, or "heading out." Those plants which have been thus injured, generally throw up feeble stems, with small ears, not having received the proper quantity of nourishment from the roots. As soon as the ear appears above the sheath, and when it may be supposed to be in a critical state of *gestation*, the bug leaves the roots (the bark of which has become too tough, or too scanty, to supply it with suitable food,) and climbs the stem to the ear, where it consummates its destructive operations by perforating the chaff cases of the grain, within which it deposits its nit, or egg. The puncture probably injures the small vessels which would otherwise supply the grains with their proper nourishment, (in whole, or in part,) and causes an entire change in the substance of the grain. This change renders it the proper and natural food of the bug. It also becomes the fit receptacle for the deposition and nurture of the ova of the insect. I suppose the change in the grain to be produced by the perforation of the case, or chaff, and deposit of the nit or egg: for I have now in my possession several ears, in which there are many grains of smut and good grain intermingled; and also several ears in which the grains are part smut and part good farina—some about half and half, and some more or less of each.

It has been conjectured by several writers on this subject, that a radical change in the plant is effected by the operation of some latent poisonous principle, before the earing out. One writer (DUHAMEL) has stated he "found the ears smutted as early as March or April, upon carefully opening the hood, or blade, *even when not more than the sixth part of an inch in length*"! Another (TILLET) says, "the smutted heads or ears can oftentimes be found *vitiated in the hood*," &c.—SPALLANZANI "found (or supposed he found) that the smut was produced in the plants long before the impregnation." Whence DARWIN concluded, "that for want of impregnation, or the vivifying principle, the wheat corn might putrify, as is the case with addled eggs," &c.

With a knowledge of the facts stated in my former numbers, it is impossible for me to believe that the grain could have been smutted by any "vitiating principle in the air," when the ear was not more than the sixth part of an inch in length, and still "in the hood;" or that smut was produced from "unseasonable cold and wet." For, in either case, I must suppose that a diseased state of the stem, or ear, would so operate upon all the sap vessels, as to produce a change in *all* the grains in the ear, or at least of the *whole of each grain* affected by the disease. That there is a constant circulation of the sap in plants while growing, in some degree similar to the circulation of the blood in the animal creation, I presume no one will deny. Such being the case, it is difficult to imagine how one part of a grain can be good and the other bad, when the same sap is circulated and distributed to each section in precisely the same manner. I have little confidence in the statements of the discovery of smut at so early a stage in the growth of the plant — in the fine-spun theories respecting the cause of smut, I have none at all. My observations have convinced me that the change in the grain is produced *after the earing*, or "*heading out*," and while the germ of the grain is expanding. In cases where the grain is wholly smutted, I suppose the perforation to have been made at so early a period, that the germ being very small it is *wholly* affected and changed into smut. When the grain is only *in part* smutted, I suppose the nit to have been deposited at *so late a period* as to injure the part of the grain *immediately around* it; and that the other part of the grain being too much hardened to be operated upon,

produces good farina or flour. As the bug is slow in its operations (and but *one* perhaps on an ear) it may be, and probably is, several days in perforating the grains in a single ear. In such cases, some of the grains perhaps are not perforated at all, and of course are not affected, while others in the same ear are *entirely* or *in part* smutted. Whether the bug, when it deposites the nit or egg, leaves with it some *poisonous* matter for its sustenance, which produces the change in grain, or whether the nit very soon becomes a *worm, which nestles in the grain,* and thus produces it, I do not know.

When I wrote those articles for the Argus, I had no very definite opinion as to the particular manner in which the smut was formed by the operations of the "bug," (or "*beetle,*" as some fastidious learned people insist upon calling the insect.) It will be perceived that in my third article I gave it as a *supposition* that "the bug, or its precedent worm, when revived by the warmth of the spring, commenced its work of destruction by attacking the roots of the young wheat." From subsequent examinations, I am convinced that that conjecture was not well founded. I am now perfectly satisfied that the excoriations of the roots of the wheat were made by the "*wire-worm,*" which has for the last twenty-five or thirty years destroyed so much of our wheat; but which has generally been supposed to have been "*killed by the winter.*" That the *ova,* or *larva,* of the *smut insect* remains, during the winter, *dormant* in the *smut grain, as an egg* or *worm,* there can be no doubt. The unexpected result of carrying the smut grains into my wheat field with the barn-yard manure, as stated in my second article, appears to afford sufficient proof of this. As great numbers assume the *insect form* in the fall, they probably pass the winter in that state, and, like other insects, revive in the spring. However this may be, those which I hatched all died after a few weeks spent in feeding on the smutted grains contained in the bottle with them.

From all the investigations which I have been enabled to make, in relation to the *manner* in which the smut is produced by the operations of the insect, it is this: It perforates the *glume (chaff case)* of the grain, and deposits its "*nit,*" or "*egg.*" On the outside of the chaff case the puncture closes up, (as do, generally, the lips of a punctured wound in flesh;) but in the inside the wound or puncture is kept open by the oozing in of the undigested sap of the plant, which runs into the unfilled cavity of the glume and fills it with *smut,* which is nothing more nor less than the *crude* or *unprepared* sap of the plant thus *prematurely* let in where good flour would have been formed if the sap had been left undisturbed, to pursue its ordinary course of preparation and circulation through the *natural channels* or *sap vessels.* And when *one part only* of the grain is smutted and the other part is *good* flour, it is, as suggested in my third article, because the perforation was made at so late a period that a *portion* of the cavity (less or more) had been already filled with *properly prepared* sap, *(flour,)* and but a part left unoccupied, but which was filled with *un*digested sap *(smut)* immediately after the puncture was made; both operations, that of forming good flour and the other of forming smut, no doubt going on at the same time; the latter, however, probably proceeding much the most rapidly.

Having, as I confidently believe, fully established the fact that smut in wheat is caused by the *operations of an insect,* and having discovered and identified that insect, I will proceed to consider as to the best means to be used as *preventive remedies.* And here I will confess that I have not any great degree of confidence that after the insect has been for several years an inhabitant of a farm, there is, or can be found, any certain and immediate preventive remedy for the evil, by the destruction of the insect, or otherwise. I have practiced several modes of preparing the seed wheat — at one time washing it with water; at another, soaking it in very strong lime water for twelve hours or more; in a third instance, wetting the wheat and mixing quick lime with it. Neither of these modes of preparation *entirely* prevented smut in the produce. The smut insect had become an established inhabitant of my farm, and I found it almost impossible to turn it out of the possession.

At length, however, I tried another plan. The heavy chaff and "tailings" of the cleanings of my wheat, containing the unbroken smut grains, (with, of course, the nits or eggs of the insect in them,) I carefully carried from the barn and destroyed them, so that none of the smut grains went into the manure. Particular care, also, was taken to sow no seed which had a *grain* of smut in it. This course was pursued for several successive years, and, after some twenty years of observations, experiments, and exertions to free my wheat from smut, I succeeded in raising good and clean wheat generally, but not always — occasionally I have found my old enemy smutting my wheat again. It probably strayed over into my fields from some neighboring farm; for, since the wheat in this vicinity was first discovered to have become smutty, the evil has occurred, I believe, in some locality or other, *every year,* in a greater or less degree. Notwithstanding all my care and exertion to free my wheat from smut, I am not at all sure but that *nature* had as much to do with my success as I had myself. I believe it is generally understood that some seasons are not as favorable to the reproduction of insects as others. Cold and wet weather no doubt destroys many of the young insects after they are warmed into life. Severe winter frosts may also do the work by freezing and *addling* the eggs. It is also asserted (and I believe truly,) that *parasitical* insects deposit their nits in other insects, which being hatched out, prey upon and destroy those that have thus served them for nests and food. Some one, or perhaps all of these causes combined, may have contributed to produce the desired result. Be this as it may, I am perfectly satisfied that the course which I pursued was the best, and indeed, the *only one* at all likely to be successful. If the *smut grains* are thrown into the barn-yard, and thence carried out upon the farm in the manure, I do not think it possible to free a farm from the smut insect. The insect appears to be brought to maturity at the time that the wheat is usually earing, or "heading" out, and the deposit of the *nit,* or *egg,* is commenced immediately thereafter. Early sown wheat generally fares the best; probably because of its "heading" out before the insect is ready to commence its operations. But if sown very *early,* for the purpose of having it ear or "head" out before the maturity of the smut insect, it is frequently attacked in the autumn by the "Hessian fly;" and thus, by attempting to escape one evil, we run into another oftentimes much worse; for the "Hessian fly" is generally far more destructive than the smut insect — the former frequently destroys the whole crop, the latter never destroys more than a minor portion of it. At the same time, however, *if the grain is cut before it becomes "dead" ripe,* it is very much injured by the grains being blackened by the dust of the smut

as well as by having the unbroken smut grains mixed with it. *Very late* sown grain is very liable to be smutted if the insect is in the neighborhood of it. Wheat should, therefore, be sown neither *very early* nor *very late*. The best season for sowing it is, undoubtedly, between the 5th and 25th of September. Yet, as to its being smutted or not, much will depend upon the weather of the succeeding spring. If the season should be cold and "*late*," it would probably retard the growth of even the *early sown* grain, and bring its *latest growing heads* within the period of time required by the insect for the deposit of its eggs. J. H. H.

"CORN vs. WHEAT"—AGAIN.

Messrs. Editors :— As a constant reader of your invaluable paper, I have witnessed with much interest the increasing contributions of my brother farmers, (an auspicious sign, not only in practical but theoretical farming,) especially one from my fellow townsman, under the title of "Corn vs. Wheat.—Drill Culture, &c," as a subject calculated to elicit discussion on the comparative profits of these valuable crops. In the chapter Mr. Sperry has furnished your readers, he has not given them the expense of raising his crop of corn, nor that of raising a crop of wheat. In this respect, therefore, he has failed to give us the full benefit of a careful, repeated, and reliable experiment.

With the "Young Digger," I think it exceedingly unsafe to *jump* at conclusions; and after several years of somewhat careful observation in farming, so various are our seasons, our soil, its condition, its culture, and our markets, that for one I am not ashamed to confess myself ignorant of the great art of husbandry and the relative profits of some of our staple crops, and much in need of the benefits of scientific instruction, even at the hands of our "sapient legislators," although some of my neighbors deride "book, or collegiate farming."

Now a few words in review of friend Sperry's article on "Corn vs. Wheat." In giving the gross amount only of the value of his crop of corn, without charging it with the expense of manure and its application, plowing, planting, hoeing, harvesting, &c., Mr. Sperry has failed to satisfy at least one of your readers of its comparative profits. He many not have used manure, and thereby saved that expense for that crop. Every practical farmer knows full well, without the aid of science, that corn is an exhausting crop—not more so, however, than some others; but it leaves nothing to restore the waste it occasions, consequently constant cropping with corn would require a heavy outlay for manure every year after the first or second, at longest—a heavy charge against the crop. I hold that any system of farming in Western New York, where much of the land is already too much exhausted by constant cropping, that does not essentially improve the soil, is unprofitable. In these remarks I would by no means disparage the raising of corn. Corn is invaluable to the farmer as a feeding or fattening crop, or for cleansing one's fields of foul grasses, if the quantity planted be confined to no more than will be done carefully and thoroughly.

A word about the use of the drill in planting corn, (which I see by friend Sperry's frequent communications is quite a favorite with him.) He is silent *this year* on the subject of its use as a cultivator. Corn planted with a drill can be planted in rows but one way, while the other it will be scattered along the row or irregularly deposited in hills. We have had a little experience in this mode of planting. Our experience is, that when scattered in rows it may somewhat increase the amount of the crop; yet on a "blue or June grass" sod it greatly increases, nay, nearly doubles the expense of tillage, and in a wet season would utterly defeat a great object of corn culture, namely, that of destroying foul grasses. We have never found a better way, on the heavy soils of Gates, (these grasses being indiginous to such soils,) to "chastise them," than to row corn both ways. Make frequent use of the corn harrow, cultivator, or plow, and what is better, all of them both ways, not neglecting the faithful use of the hoe, even were we obliged to go to the "tombs of the Capulets" for them. "Work once well done is better than twice half done." Our opinion, on a review of the article in question, is, that for every day saved in planting on "blue grass" sod with a drill, four is lost in tilling. The most of the labor of raising a crop of corn is in the hoeing and tending. Such planting is "filling at the spiggot and leaking at the bung."

A word on the relative profits of "corn vs. wheat." Last season, after a crop of corn that had been planted on a clover sward manured, I well cultivated *both ways*, (which, by the by, was rather expensive,) and sowed wheat. The expense and produce, so far as I recollect, which is pretty near the mark, although the account was not accurately kept for the purpose of giving it to the public, was as follows :

5 acres, once plowing, man and span horses, at the rate of 1¼ acres per day, 3¾ days at, $2 per day,	$6 66
Seed 1¼ bushels per acre, 7¼ bush., at $1,12½,	8 44
Sowing and harrowing twice, boy and span of horses one day,	2 00
The crop stood well, and was harvested for $1 per acre,	5 00
Drawing and securing,	2 00
Threshing 150 bushels at 6 cents per bushel,	9 00
	$33 10
The Value of the crop, 150 bushels, at $1.12½ per bushel, about the average price last fall, although it brought more, was,	$168 75
Balance in favor of the profits of the crop,	$135 65

Friend Sperry, or some other advocate of corn as a market crop, may figure his profits higher than this; for this is not given as an extraordinary result by any means, or as establishing a system of farming or cropping. A far greater produce in value, either of carrots or many other roots and vegetables, can be realized, and yet with less profit.

The lot mentioned above was thoroughly cleansed from foul grasses and seeded with clover. The season being favorable, it set well; and the soil being rich, it gave a most luxuriant velvet covering to the ground, securing the young clover roots against the frosts of winter, besides furnishing considerable feed.* Next summer this lot will not lie bare, exposed to the leaching rains and evaporating rays of a summer sun, "to waste its fragrance on the dessert air," as it would after corn, if the land was poor, (and it will will soon become so by raising two crops of corn to one of wheat,) or foul, or there was not time to sow it; but in beauteous and joyous contrast will give at least two or two and a half tons of hay to the acre,

* I would by no means recommend feeding clover fallows, except on rich lands where the whole crop is not needed for manure.

or what is better, give a large quantity of good feed and leave a sufficiency for plowing under and self-manuring. Managed in this way, with once plowing and the use of the cultivator thereafter, the same lot, if the season be a good one, is as safe for 40 bushels per acre the next crop as 30 after corn.

In this article, which is already too long, we have not noticed the subject of transforming corn at fifty cents a bushel, the basis on which our friend makes his profits, into pork and beef at from $4.00 to $4.50 per hundred; the secret I have never learned, and am therefore incompetent to such a task. A Gates Farmer.—*Gates, Feb'y*, 1850.

BENEFITS OF DEEP PLOWING.

Messrs. Editors:—Some fifteen years since, being in the State of New York, I saw for the first time an agricultural paper—the *Genesee Farmer*. In that was an article relative to deep plowing, which I perused carefully, and by it was induced to try an experiment. I had previously farmed it as others did, thinking that there was no way to increase the product but to increase the number of acres.

I had a field containing four acres and one hundred rods of ground, which had been cleared nine years and had had a grain crop on it every year—wheat, corn, and oats—the three last were oats. The field was considered nearly worn out, and would not have produced more than fifteen bushels of wheat per acre. There were many large stumps and four green trees on the field. The soil was clay loam. I had only a single team—a powerful span of horses—and a single plow, (Wood's.) I raised the end of the beam three inches and commenced plowing in June, when the ground was wet, turning up about five inches that had never been stirred before, plowing about three-fourths of an acre per day. The ground was dug up with a spade around the stumps, harrowed and plowed shallow twice afterwards, and sown the fifth day of October with two bushels of velvet bearded wheat per acre. In the spring were sown 150 pounds of plaster where the wheat looked the poorest. The result was, although much was wasted in gathering, for it shelled badly, I had by weight 196½ bushels besides one large load not threshed at the time, which would have increased the product to at least 212 bushels. Since that time I have plowed deep, and the result has been invariably the same, or at least doubling the crop. Deep plowing on a soil like mine will prevent the crop from suffering from wet or dry weather, and is a preventive of rust, or at least has been with me, and it will not turn to weeds, as much wheat does in Michigan. The editor of the Michigan Farmer thinks "it is almost a miracle" if a farmer here gets a good crop of wheat; yet none fail who cultivate their land properly. This we can prove by many farmers in this county.

The general system has been, ever since the first settlement of this country, to plow shallow and grow wheat after wheat, without manure, or even seeding to grass, until all the food for the wheat plant is exhausted, and then we are told that the seasons are such we cannot grow wheat and must turn our attention to raising sheep; but will sheep thrive if we serve them as we serve our wheat? Will they live without proper food? Or will they live in the water without turning to musk-rats? Yours, &c., Linus Conr.—*Troy, Oakland Co., Mich., Feb'y*, 1850.

ECONOMY IN RAISING WHEAT.

As the country improves with the introduction of labor-saving machines, quite a revolution is taking place in the management of fallows for wheat. Instead of following the old practice of plowing twice or thrice, re-inverting the sod and affording a fine opportunity for the grass to grow, the theory now obtaining is to plow once and deep, the after work being perfermed by the harrow and wheel-cultivator. The advantages arising from this mode of culture are as follows:—The sod once inverted remains below the surface, affording in its decomposition food for the young plants; it also affords an opportunity for the superabundant water to pass off, thereby removing the liability of the ground to bake or heave. On land comparatively free from stumps and stones, as all old cleared land should be, I consider this a decided improvement on the old plan. Another important consideration is, the ground once plowed, the labor is in a great measure accomplished. By the use of the harrow and cultivator occasionally, the ground will become finely pulverized; so when the time of seeding arrives, the ground is already prepared for the reception of the seed. If any doubt the superiority of this mode of tillage, let him try and see.

The present is emphatically an age of improvement, and he, whether farmer or otherwise, who neglects to avail himself of the advantages to be derived from the recent works of art, and the sciences, should have the honor of being alone in his glory. W. Ansley.—*Rushville, N. Y.*

A TROUBLESOME WEED.

Messrs. Editors:—As your columns are open to the interests of the farmer, I wish to make a few remarks in regard to an obnoxious weed, little known in this section, and yet abounding in a greater or less extent throughout the country. It is called *Ackley Clover*, but is probably a species of the white daisy. It takes its present name from the person who first introduced it into this State. It is probably the most injurious to the growing of wheat of any known foul weed, because, after becoming once seeded, it cannot be eradicated as long as you grow wheat. It grows equally well and sometimes as high as the grain, and by the thick mat it forms it is almost impossible to get through a field of it. It resembles May-weed in every respect, (excepting it grows more rank,) and this is one cause of its spreading so rapidly, people not knowing what it is, and calling it May-weed. The root lives until it is three years old, and continues to branch out and seed nearly all summer, and in its last year's growth, one root will cover as much ground as a half bushel. The seed is very small and of a yellowish cast, and can with difficulty be detected in clover seed, in which way it is being sown broadcast all over our country. I would advise all those purchasing clover seed to be careful and examine close.

Messrs. Editors, if you consider this scroll worthy of notice in your paper, you may re-model it to suit your fancy, as it is written in haste. I want to get the article before the farmers in Monroe county, and perhaps some one more competent to describe it will take it up and give some method of getting rid of so hateful a pest. Subscriber.—*Rush, N. Y., March*, 1850.

Answers to Inquiries.

APPLICATION OF BONES AS A MANURE.

Dr. Lee: — As I have been a constant reader of various agricultural journals, for seven or eight years, my attention has been attracted by frequent notices of the great utility of bones, in different conditions, as fertilizers; and being now in a situation to procure them, I wish to inquire of you, what is the most economical and effective manner of applying them. It seems that the method of reducing them now generally used, is by means of sulphuric acid; and a Prof. Way, of England, I believe, recommends the addition of equal weights of acid and common salt. On this I should like to have your opinion, as well as on the following points, viz:

1. For corn, on a clay loam, would leached ashes, charcoal *waste*, or both, be best to dry the bones with, after solution? 2. What is the best mode of application for corn or root crops, to drop it with the seed, or to cover the seed and apply immediately over it, or wait until the corn, carrots, &c., appear above ground? 3. Will the mixture be injured by lying in a heap a month or more? And lastly, how much is required per acre for corn?

An answer to the above questions, in season for the coming spring, will be very thankfully received.

My father purchased the farm that we occupy, in the spring of 1848. It consists mostly of a clay loam, on a stiff clay subsoil, and is underlaid by a species of limestone. Some boulders, of the same kind, also lie on the surface. The farm has been "skinned," pretty thoroughly; but we, being "book farmers," expect to increase its fertility somewhat before long, by means of deep plowing, turning under clover and buckwheat, by raising spring crops and manuring them well, to be followed by wheat; and, lastly, by keeping the ground always covered, as far as possible. The good effects of which mode of culture are apparent already. We are also trying to get up a "Farmers' Club," and to obtain some subscribers to your paper, which we get through your agent, Mr. Reed, at Lockport.

But as your time is precious, I will not tax you further at present. J. Breading Trevor.—*Lockport, Feb'y*, 1850.

"Leached ashes and coal waste" will be useful on clay loam, for corn or any other crop. These fertilizers being mild in character, they should be applied to corn land in quantities sufficient to spread over the whole ground, and be incorporated with the soil by the plow, harrow and hoe. This should be done, i. e., the ashes should be applied before planting. Unleached ashes are most economically used by adding one bushel of salt, one half do. plaster, with two of ashes, and adding the mixture to the soil as a top dressing for each hill, after the first hoeing or weeding; taking care not to have the salt and ashes come in contact with the young plants. One or two ounces, or such a matter, spread over the roots of each hill will be of essential service to the crop.

Leached ashes and rotting manure, mixed in a compost heap, improve each other — the carbonic acid eliminated from the dung, or decaying organic matter, will render the potash, soda and lime salts (silicates) in the ashes soluble, while the alkalies named will aid in forming salt-petre. (See account of artificial nitre beds, in Johnston's Chemistry.)

The only objection to the use of sulphuric acid for dissolving bones is the expense of the article. To avoid this, we have preferred to break up bones with an old axe, pretty fine, and boil them to a powder in strong ley. To this compound we add a little salt and gypsum. It may then be mixed with a little fine dry loam and distributed with a drilling machine over seeds of corn, carrots, beets, or other plants. The compound is too caustic to be placed in contact with tender germs. It is a powerful fertilizer. As to quantity per acre, every man's judgment, means, quantity of land, &c., must decide that question.

HEMLOCK LANDS.

Although not a farmer myself at present, (a physician,) I was brought up on a farm, and now feel a deep interest in the scientific cultivation of the soil. I have been in contact with your paper for the last year, and I must say I am entirely satisfied with the general and practical principles therein inculcated. One thing, I hope you will as far and as often as possible observe, to give all the instruction you may obtain in relation to the cultivation of the soil of *hemlock land*. This is too much neglected in our *agricultural* papers. And as our soil in this section of Steuben is mostly "hemlock," I hope that your own remarks, as well as those of your practical correspondents, may be directed occasionally for our benefit. Yours, &c., Thos. Shannon. — *Orange, N. Y., Feb.*, 1850.

As a general thing, soils on which hemlock grows lack lime. Draining, liming and turning in clover, (the growth of which is greatly promoted by gypsum,) will improve all lands of the character which usually produce much hemlock. They are sometimes fair wheat soils, but commonly better adapted to grazing than to grain culture. By seeding liberally, and manuring, a good return in dairy products, wool, and neat stock, may be realized from soils not naturally fertile. In some countries and districts hemlock grows on very superior land, which will bear fine crops of all kinds adapted to the climate. No land that produces large forest trees can be *very* poor. With good management it will bring great crops of grass that can readily be transformed into gold.

WHEAT FLY OR WEEVIL.

A correspondent, of Crawford co., Ohio, communicates the following intelligence:

The wheat weevil has commenced its ravages in this section of the country. The first that I saw of them was in 1846. They have been increasing steadily every year since. Last harvest they destroyed the greater part of the late sown wheat. Will they continue to increase as they did in St. Lawrence co. and that part of Canada opposite there, until they take *all the winter wheat?* I believe they will. What is your opinion on this subject? S. P. Jaquith.

Is the insect spoken of a *little bug*, like that in peas, or a fly with wings, when it comes out of the seeds? We suppose it to be the *wheat fly*, and not a weevil at all. This insect deposits its eggs when the seed is forming, which hatches out after harvest in Western New-York, and is often seen in thousands when cleaning wheat, and sometimes later. The Hessian fly is a different insect. The only remedy for this pest, known to us, is to seed out of season — either quite early or very late in autumn. It is impossible to predict what will be the abundance or scarcity of this class of animals, at any future period.

INSECTS ON THE ROOTS OF CORN.

A correspondent writes at the close of a business letter as follows:

I have been hoping to see something said in the Farmer, relative to the louse that is so destructive to corn, in Kentucky. The roots of the young plants are attacked by them and its growth paralyzed. They attach themselves to the roots in great quantities and the plant becomes hard, and the growth stationary, and many farms do not yield half crops, when infested by them.

Any thing that would remedy this evil will be of immense value in Kentucky, if it is attainable. I would like very much to hear from some of your numerous readers on this subject. Yours, with due respect, Z. R. Huggins.

We suspect that the depredator is an aphis—perhaps the same that sometimes attacks the cotton plant. If any reader has any knowledge on this subject he will serve the cause of agriculture by communicating his information to the public through this journal.

CULTURE OF BEANS.

Messrs. Editors : — Will you please to answer me the following questions? The best kind of beans for field culture on an extensive scale? The manner of culture, commencing with the time of planting? The best manner of harvesting, drying and marketing? The place of marketing a crop, of one, two, or three hundred bushels?

I would also wish to know the probable number of bushels per acre — the ordinary price — also, the earliest time they may be taken from the ground: reference being had, throughout, to the fall sowing of the bean ground to wheat. Are they best planted in hills or rows? W. S. — *Canandaigua, N. Y., Feb.*, 1850.

The best field beans to plant, if reference be had to a market, is the small white, as it sells the most readily, and brings the highest price. The general mode of planting is in drills or hills; usually the latter. When planted in hills, there should be about six plants in a hill, and the hills about two feet apart. Judge Buel states that the largest crop he ever raised (48 bushels to the acre,) was in rows. The bean is partial to a quick, dry soil. It is a very tender plant and will not bear the sligtest frost. It is therefore unsafe to plant them until frost is no longer to be apprehended. Thirty bushel to the acre would be a good crop, though much larger crops have been raised, and much smaller might be very easily.

When the beans are fully formed, and there is danger of frost, pull and throw them into heaps, in which condition the frost scarcely affects them. If the ground is not wanted for other uses, they may stand till the latest pods assume a yellow color. They are pulled with ease when the plant is mature, as the fibres of the root are by that time dead. This is more quickly accomplished with an iron hook-rake, or if the stalks are partially green, they can be mown, or cut with a sickle. If the vines are not dry, let them remain for a while in small heaps, and afterwards collect in large piles, around stakes set at convenient distances, with the roots in the center and secured at the top by a wisp of straw. When well dried, thrash, clean and spread them, till they are quite free from dampness.

The price of beans ranges from six to twelve shillings a bushel. Nine shillings is now the price in this market. They generally find a ready sale. The time a crop could be got off must depend much on the season. The long garden white bean, and the China bean with a red eye, ripen earlier than most others, and are very productive.

Messrs. Editors. — Since my boyhood, I have been engaged in other business than farming, and all I know of it is what I then learned, and that in the old hobbling way, together with what observation I have made in riding about the country in the practice of physic, till four years ago; when I came in possession of a small piece of land, of some 22 acres, which I have endeavored to work to the best advantage. But I feel greatly the need of some experienced adviser, to enable me to do it *all* in the most approved manner. In my way of farming, I believe I have realized more profit than many do from a hundred acres; yet I am sensible that still greater improvement might be made, if I *only knew how*.

In reading your valuable publication, which I constantly peruse, I see that you have some communications to obtain answers to specified questions, and for this reason I address you. On my place I have all varieties of soil. Some half an acre, alluvial; six or seven acres, gravel, dry; seven or eight, clay entirely, and some muck.

Will leached ashes, from the ashery in our village, pay the expense of drawing on to any of the varieties of soil above mentioned? Will plaster be good for any or all? If so, when is the best time to sow?

Will alluvial or gravel be best for carrots? I have a garden spot of some fourth of an acre of dry gravelly soil, which was rich when I came here, and which I have manured from the barn every year since I have had it. Last spring I covered it well with rotten manure. Will it be good for onions? If so, and you will give me the best method of raising, as to kind of seed, time of planting, how to fit the ground, &c., &c., in minutia, I will do it right, and report my success in the fall. I want to beat every body else. How much seed shall I want?

I read, in the January number, an account of what you call a large crop of beets. I believe I beat that last year, although I have not accurately measured the ground. I raised some 90 bushels on less than half that ground. What soil is best for quince — wet or dry — rich or poor? Will they grow from slips? D. Seaver. — *Hume, Allegany co., N. Y., Feb.* 25, 1850.

Apply leached ashes to your gravelly soil and around your quince, apple and other fruit trees. Quinces will do best on a medium soil—neither wet nor dry. Hog manure, leached ashes, and spent lime, have produced the best crops of onions that we have ever seen. About three pounds of seed are required for an acre. Plant early and not too thick in the row, nor have the rows too close together. If you "beat every body," please write and let "every body" know *how* you do it.

THE MILCH COW.—S W. AND MR WRIGHT.

Messrs. Editors :—In your Farmer for March, is an article headed, "Milch Cow." The article seems to be intended to cast a doubt upon the capability of the cow, to impugn the judgment of the Journal of Commerce and the veracity of a "Traveler," as well as myself. Your friend Mr. "Wright" has done himself a great "*wrong*," showing a lack of discretion not very creditable; but that is his affair, and not mine. Your correspondent may have been "hoaxed" by Mr. Wright, in regard to the cow, the *pail*, and the milk; and it is very likely Mr. Wright made "a fish story" of it. If he had adhered to the facts as *he heard them*, and in fact *saw them*, he would have stated that my noble cow *did*, for about six weeks in June and July, 1847, *give forty-two quarts of milk each and every day — pure milk*, without froth — and some days more. The quantity was ascertained by a tin quart measure, such as is in common use through the country; true, it had not been sealed by the County Sealer, but I do not believe it could vary so much as to invalidate my assertions. I repeat, therefore, that "the milch cow" did yield, in 1847, for about six weeks, forty-two quarts of milk per day. The quantity given by the same cow in 1845 and 1846 was about the same as in 1847, though in 1848 and 1849 the quantity was diminished, which I attribute to her calving early in the season, too soon for grass. The quantity she gave last year, for a time, was about thirty-nine quarts per day. I regret that she is not in a condition to give me a calf this season, otherwise I doubt not Mr. Wright's $500 would have been transferred to me. In her present state, I am offered, by a neighbor, one hundred dollars; but I dissuade him from taking her, as I doubt whether she will have another calf.

Mr. Wright could not have seen a pail "with a strainer" here, as there never was such a pail about my house.

As to my under-drained fields, I will say, that I have laid on my farm 41,000 drain tiles of fifteen inches in length. S. W. may estimate the same in miles and fractions, and correct a "Traveller" if he can. Yours, &c., John Johnston.—*Near Geneva, March*, 1850.

IMPORTED SHORT-HORNS—BATES' STOCK.

In the August (1849) number of the Genesee Farmer, is an article by me on the Short-horns, which I imported last year for Mr. Sheafe, Col. Sherwood and myself. The January number contains strictures by S. P. Chapman, on so much of my article as relates to the Bull, Third Duke of Cambridge. As Mr. Chapman does not understand my views, and therefore misstates and misconstrues them, it is necessary to answer him. He makes many assertions and takes positions, which present questions and issues, so numerous, complicated and extensive, that, *at present*, I must leave them unnoticed. There is beside, *just now, a strong propriety* in not discussing these issues. As soon as *this condition* ends, *I shall resume the subject, and will fully consider them.* In this notice I propose merely to state my meaning in the paragraph, to a portion of which Mr. Chapman objects, as *he* understands it, and refute one of his positions. To be clear, I must re-produce the passage entire. Speaking of the Third Duke of Cambridge, I said:

"I have great pleasure in knowing that I have brought to this country so superior a bull from the herd of that eminent breeder, Mr. Bates. He is the *only* bull in America got by Mr. Bates' *crack prize* bull, Duke of Northumberland (1940,) the best bull Mr. Bates ever bred. Mr Bates has *but one* more left got by the same bull; and Duke of Northumberland is now dead. Mr. Bates repeatedly told me that 3d Duke of Cambridge was more like his sire than any bull ever got by him. Breeders desiring the blood of Mr. Bates, can no where else in this country procure it *with such high characteristics of style, quality, symmetry, and substance.*"

Mr. Chapman quotes *merely* the last sentence and discusses it alone. The whole paragraph being connected, and the last sentence the conclusion or deduction, and the whole having been the subject of remark, I will briefly state what it *only* means, and was meant *only* to mean. I mean by it, that I have brought to America a superior bull, from the herd of Mr. Bates; that this bull, 3d Duke of Cambridge, (5941,) is the *only* bull in America *got* by Mr. Bates' *Duke of Northumberland*, (1940,) that Duke of Northumberland, (1940,) was Mr. Bates' "*crack prize*" bull, and was the *best* bull Mr. Bates ever bred; that Mr. Bates has but one more bull got by Duke of Northumberland, (1940;) that the Duke of Northumberland, (1940,) is dead, and that Mr. Bates repeatedly told me that 3d Duke of Cambridge, (5941,) was more like his sire, (Duke of Northumberland,) than any bull ever got by him, (Duke of Northumberland.) In 1845, Duke of Northumberland died. In July, 1848, Mr. Bates owned but two bulls got by Duke of Northumberland, and these two were 2d Duke of Oxford and 3d Duke of Cambridge. I brought 3d Duke of Cambridge to America, and this left but one son of Duke of Northumberland, (1940,) at Mr. Bates', and Mr. Bates did not in his lifetime part with that son. I designed to place before breeders the fact, that there is in this country but *one* bull the get of Mr. Bates' *best* bull, and that if they wish the blood of Mr. Bates' they could no where else in America, than from Cambridge, get *Mr. Bates' blood, through the particular channel of a resembling and superior son* of Mr. Bates' best bull, Duke of Northumberland, (1940.)

The last sentence of the paragraph which I have quoted from my August article, is this: — "Breeders desiring the blood of Mr. Bates, can no where else in this country procure it with such high characteristics of style, quality, symmetry, and substance." This sentence is the text; its disproval the object of Mr. Chapman's whole article. Never was an unfortunate sentence so misconstrued. In an article printed in Canada, it is made the basis on which to charge me with having asserted, "that from Mr. Sherwood, [through 3d Duke of Cambridge,] and from him alone, the Duchess *blood* can be procured" [in this country.] In letters addressed to others, and by the receivers shown to me, this sentence is made to mean, "that the 3d Duke of Cambridge possesses more of Mr. Bates' Duchess blood than any other bull in America," and I am charged by its use with *so saying* and *designing so to say*. Mr. Chapman makes it mean the *same* thing, *but does so* by way of *inference*, or *deduction*. His words are: — "No one will deny, that if any one animal from a herd possesses the power of imparting to his produce 'higher characteristics of style, quality, symmetry and substance,' than any other animal from the same herd, he must possess more of the *choice* blood of that particular herd. To question this, is at once doubting the efficacy of blood animals." That is, my position, if it be *true, must* be true, because 3d Duke of Cambridge has more of Mr. Bates' *choice* blood than any other bull in America. This is the meaning which by deduction Mr. Chapman places on my words. Having done this, he proceeds to prove, by quoting Mr. Bates' opinions, in his own words, from public printed letters, that the *choice* blood of his herd, in Mr. Bates' opinion, is the Duchess blood. No one ever doubted this, who either knew Mr. Bates or had read his printed or private letters. I knew such was his opinion. Mr. Chapman then gives from the 4th vol. of the Herd Book the pedigrees of 3d Duke of Cambridge, and Mr. Vail's Duke of Wellington, and by these pedigrees shows that Cambridge has by his sire *one* cross of Duchess blood, and that Wellington has *two* by his sire and the sire of his dam. The precise quantity which Mr. Chapman gives to each, is $\frac{1}{4}$, i. e. 2-8, of Duchess blood, to Cambridge, and $\frac{3}{8}$ to Wellington; and therefore he concludes, that Wellington must be a better bull than Cambridge. Logical conclusion! Now all this shows a total want of knowledge of breeding and of pedigrees in general; and in special of the particular pedigrees which Mr. C. gives of the animals under his consideration. But to explain this as *to the pedigrees*, would require *too much space now*, and I pass it.

If Mr. Chapman be correct, then it would be true that a bull got by one of Mr. Bates' Duchess bulls, dam by a Duchess bull, grand-dam *a poor roadside tack*, would be a better getter — would impart more "high characteristics of style, quality, symmetry and substance" — than a bull got by a Duchess bull, out of a pure, full bred, stylish, short-horn cow, of another approved tribe. Such an absurdity, no one, I think, would maintain, though Mr. C.'s article *seems* to do so.

On Mr. Chapman's rule, if sires have each the same amount of Duchess blood, they would possess and impart equal "style, quality, symmetry and substance." Yet no two full brothers were ever equally good animals and equally good getters. Duke of Northumberland, [1940,] and 2d Duke of Northumberland, [3646,] were full brothers. The first was superior as an individual, and very superior as a getter. The last was far inferior to his brother as an individual: far inferior as a getter. The 3d and 4th Dukes of Northumberland were full brothers and *twins*. The 3d Duke Mr. Bates never used; he was far inferior, both as an individual and as a getter, to the 4th Duke. The 3d and 4th Dukes had *more Duchess* blood than their half brother Duke of Northumberland, (1940,) and were far, very far, inferior to Duke of Northumberland, as individuals and as getters. Mr. Vail's Duke of Wellington, (3654,) has more Duchess blood than his half brother Locomotive, (4242,) and yet Locomotive was a far better animal and better getter than Wellington. Mr. Harvey's bull Walton, (6658.) son of Locomotive, a distinguished winner even in Gt. Britain, is vastly superior to any thing ever got by Wellington. Duke of Cleveland, (1937,) the sire of the dam of Mr. Vail's Duke of Wellington, (3654,) was a Duchess bull, and was so inferior, that Mr. Bates says of him, "this bull never exceeded in weight forty stones of fourteen pounds per stone, when above three years old;" that is, 560 pounds dead weight; *not half* the proper weight of a *merely fair* animal of that age. (See the London New Farmer's Journal, Aug. 8, 1842.) Duke of Northumberland, (1940,) *at the same age*, weighed, live weight, 2520 lbs. Sink one third live weight, and his dead weight would be 1680 pounds; just *three times* the weight of Duke of Cleveland. Could any thing be *more despicable* than the Duke of Cleveland, (1937?) *Yet*, he had MORE *Duchess blood* than Duke of Northumberland, (1940,) by one half.

The second best bull, as an animal, ever bred by Mr. Bates, in his opinion, was the 1st Duke of Cambridge, (3639,) a full brother of 3d Duke of Cambridge, and winner of the head prize in his class at the show of the Royal Agricultural Society of England, in 1840—an animal for which he was offered more money than for any other, except Duke of Northumberland, (1940.) And yet 1st Duke of Cambridge had only one fourth as much Duchess blood as Duke of Cleveland, (1937.) 1st Duke of Cambridge was refused to Earl Spencer by Mr. Bates, at a very large price, and when sold to go to Australia, Mr. Bates said of him, "He is too good a bull to remain in England, out of my own herd." And so he was exported at twenty-one months old. Mr. Bates' Duchess bull Short-tail, (2621,) the sire of Mr. Vail's Duke of Wellington, had more Duchess blood than Belvedere, (1706,) for Belvedere had none; and yet Short-tail was an inferior animal, deficient in every point, except his brisket and his handling, and was at best only a moderate getter; while Belvidere, (1706,) was magnificent as an animal and the best getter that Mr. Bates ever used, and was the sire of the best animals he ever bred.

Mr. Renick, the agent of the Ohio Cattle Company, who went to England to purchase for them, said of Belvedere, that "he was the best and finest bull he ever saw in England or America." The best cow which I saw in Mr. Bates' herd was not a Duchess, and *was not* got by a Duchess bull; but *was* by Belvedere, (1706.) The poorest of the whole herd was a Duchess, and *was* got by a Duchess bull. The only other Duchess cow, *got by a Duchess bull*, was a very superior cow. These two last were equal in Duchess blood; and yet, their produce were like themselves — from the superior one, superior, from the inferior one, inferior.

Oxford premium cow, the dam of Mr. Vail's imported Duke of Wellington, (3654,) was got by Duke of Cleveland, (1937.) Her half-sister Oxford, 2d, was got by Short-tail, (2621.) Short-tail and Duke of Cleveland had the *same precise amount of Duchess blood*, and of course Oxford premium cow and her half-sister Oxford, 2d, had also the *same precise amount* of Duchess blood. Yet Mr. Bates never kept on his place any thing out of Oxford premium cow, which he *could* sell; never used a bull *out of Oxford premium cow*, for any purpose, *even to get steers*. He *never* sold an animal out of Oxford, 2d, at all — and in a letter to Mr. Vail, printed in the American Agriculturist, he says he would not sell her produce, of which he then had four, for five hundred guineas [$2,500] each; nor, indeed, would he sell them at any price. The full brother and the sons of Oxford, 2d he used to his whole herd, except herself and her daughters. And Mr. Bates was right; for Oxford, 2d, and all her produce are vastly superior to Oxford premium cow and her produce.

Mr. Vail commissioned me, when in England, to select from Mr. Bates' herd a young bull. I could not get for him such a one as I approved, at a *suiting* price; and I did not therefore execute the commission. Mr. Bates offered me a bull calf, by 2d Earl of Beverly, (5963.) — a good Duchess bull — dam Oxford, 4th, by Duke of Northumberland, (1940,) *grandam Oxford premium cow;* but a regard for Mr. Vail's interest made me refuse the offer, though the *price suited.* I saw the *calf's dam;* I saw Mr. Bates' *opinion*, as shown by *his practice*, and acted accordingly, and refused the calf.

I have cited these peculiar examples, to show by animals having Duchess blood, the utter absurdity of Mr. Chapman's notions of breeding. I have compared animals to show his errors, and he set me the example. I have *confined* myself, in *my comparison*, to the blood that he selects for his comparisons, and have, like Mr. C., quoted Mr. Bates' opinions, as printed, as practical ones.

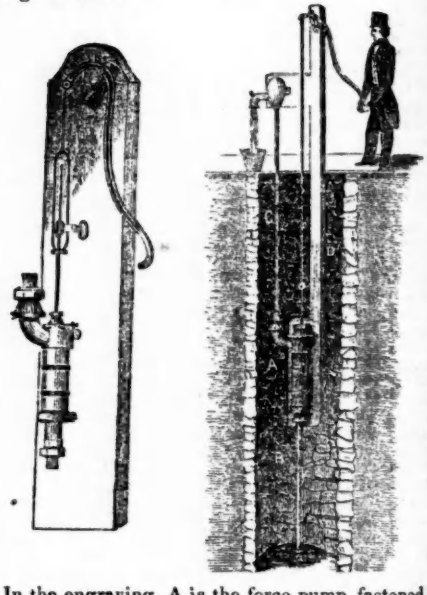
Having refuted the positions of Mr. Chapman, shown him his error, and proved that my position may be true, and not in consequence of the reasons he assigns; let me state what my words so often quoted *do* mean, what they were *intended* to mean, and what they *only can be made* to mean, by *any* construction of the words of the sentence. I mean and *only* mean, that 3d Duke of Cambridge will impart Mr. Bates' blood, in some degree, more or less; that in himself he is the bull having the most "style, quality, symmetry and substance," of all the bulls that have ever come to America *from Mr. Bates' herd;* that he will get produce with more "style, quality, symmetry, and substance," than any bull from Mr. Bates' herd in America. Now I meant *this*, and *nothing more;* and *not* that he *had* or would *impart* more *Duchess* blood.

Mr. Chapman does not pretend to deny my positions, when construed as I have here set them forth. *He makes another issue.* I admit that Mr. Vail's Wellington has more Duchess blood than Cambridge. I never thought he had not; never said he had not; and never wrote nor spoke a sentence that would in any manner directly or indirectly indicate such a thing; and should not, and but from misconception, I never would perhaps have been charged, directly or by deduction, with the assertion, that "from Mr. Sherwood, and *from him alone*, the *Duchess blood* can be procured," in this country; nor with the assertion, direct or consequential, "that Cambridge has more Duchess blood than any bull of Mr. Bates' breeding in America."

Mr. Chapman institutes a comparison between Mr. Vail's animals and Cambridge, in point of *Duchess blood*, giving pedigrees. I could *investigate* these pedigrees, and *will hereafter.* He wisely makes *no* comparison between those animals in their *physical* character. I could, but will not *now*, but will hereafter. I will merely say, that excellence in the physical animal consists of "style, quality, symmetry and substance;" and excellence in blood consists in having good blood, *unmixed with bad blood;* and as like begets like, it is necessary that *animals should have their descent, not only from pure blood, but from animals who were characterised by physical excellence.* I know Mr. Bates' herd, and certainly am not to be instructed in the excellence of Mr. Bates' Duchess tribe, by those who have never seen a single animal of it. Mr. Chapman has stated matters to which I now make no allusion; but I beg to assure him that I will return to them hereafter, when it will be more proper to discuss them than now, and when I shall not be charged, as I have been, with views and purposes which I have never entertained. A. STEVENS. — *February*, 1850.

DOUGLAS' PATENT SUCTION AND FORCE PUMP.

DOUGLASS' *Suction and Force Pump* we think a very useful article. Farmers who depend upon wells for a supply of water for stock, as well as for domestic purposes, often feel the need of a force pump, by which they can force water into cisterns, reservoirs, or troughs, as may be needed for use. Force pumps generally have been too complicated and too expensive for general use.



In the engraving, A is the force pump, fastened to a plank about 25 or 30 feet from the surface of the water. B is suction pipe from force pump to the water. C, discharge pipe, terminating in a chamber or barrel with a spout, causing the pipe to throw a more uniform stream.

The inventor says "these pumps are designed to be used for deep wells or for forcing water up into Bathing Chambers, Factories, &c., &c.; and by the application of hose, may be used for the protection of buildings in extinguishing fires. They are adapted for being worked either by hand, water, steam, wind, horse, or any other power, as may be desired. Thus they may be used for conveying water by means of pipes from wells, springs, or streams, to any point or station required."

Price $15 and upwards, according to size. For sale at the Genesee Agricultural Warehouse, Rochester.

CAUTION. — Do not inhale the smoke of matches while ignited. It is highly poisonous.

METEOROLOGICAL ABSTRACTS OF 1848 AND 1849.

BY LEANDER WETHERELL.

The following abstract is from the Meteorological Observations kept in Rochester, during the years 1848 and 1849. The city of Rochester is situated on the Genesee river, seven miles from Lake Ontario: latitude 43° 8′ 17″; longitude 77° 51′ West from Greenwich, England. Elevation, 506 feet above tide water.

Monthly mean temp. of	Jan.	1848,	30.66;	do.	1849,	23.14
" "	Feb.	"	28.56;	do.	"	22.13
" "	Mar.	"	32.25;	do.	"	34.57
" "	April	"	44.70;	do.	"	41.85
" "	May	"	59.72;	do.	"	51.10
" "	June	"	67.63;	do.	"	66.01
" "	July	"	69.23;	do.	"	70.05
" "	Aug.	"	72.81;	do.	"	69.23
" "	Sept.	"	56.20;	do.	"	60.20
" "	Oct.	"	49.33;	do.	"	48.26
" "	Nov.	"	35.81;	do.	"	46.66
" "	Dec.	"	34.35;	do.	"	28.01
Annual mean temp. of the year		"	48.55;	do.	"	46.68
Highest degree of the year		"	94.00;	do.	"	95.00
Lowest		"	0.00;	do.	"	*-9.00
Greatest annual range		"	70.00;	do.	"	55.00
Warmest day in the year		"	Aug. 16;	do.	"	July 10
Coldest		"	Jan. 10;	do.	"	Feb. 16
Winds—North,		"	17½ d'ys;	do.	"	33 days
------ Northeast,		"	24½ " ;	do.	"	36½ "
------ East,		"	11½ " ;	do.	"	7 "
------ Southeast,		"	33 " ;	do.	"	25½ "
------ South,		"	23½ " ;	do.	"	28 "
------ Southwest,		"	62 " ;	do.	"	59 "
------ West,		"	67 " ;	do.	"	55½ "
------ Northwest,		"	19½ " ;	do.	"	120½ "
Prevailing wind of the year		"	W. ;	do.	"	NW.
Number of fair days,		"	[illegible] ;	do.	"	162
------ cloudy		"	177½;	do.	"	203
------ days on which rain fell		"	111 ;	do.	"	119
------ days " snow		"	57 ;	do.	"	69
------ days " rain & snow		"	23 ;	do.	"	14
Amount of rain & melted snow		"	32.03 in.;	do.	"	32.87 in
First frost in the autumn of		"	Sept. 27;	do.	"	Oct. 2
First snow in the autumn of		"	Sept. 22;	do.	"	Oct. 30
Robin first heard		"	March 8;	do.	"	March 9
Maple tree in bloom		"	Mar. 28;	do.	"	Mar. 27
Mean temp. of the Winter of		"	30.48;	do.	"	26.54
" " Spring		"	45.58;	do.	"	26.54
" " Summer		"	69.89;	do.	"	63.43
" " Autumn		"	47.11;	do.	"	51.71
Number of fair days in Winter		"	29½;	do.	"	21
------ cloudy		"	61½;	do.	"	69
------ fair days in Spring		"	50½;	do.	"	39
------ cloudy		"	41½;	do.	"	53
------ fair days in Summer		"	65 ;	do.	"	64½
------ cloudy		"	27 ;	do.	"	27½
------ fair days in Autumn		"	40 ;	do.	"	45½
------ cloudy		"	51 ;	do.	"	45½
Am't rain & melted snow, wint.		"	7.45 in.;	do.	"	6.79 in.
Amount of rain, Spring		"	7.03 ;	do.	"	7.60
Amount of rain, Summer		"	10.07 ;	do.	"	8.89
Amount of rain, Autumn		"	6.53 ;	do.	"	11.39
Number of days on which rain fell during April and May, (*grass season.*)		"	26 ;	do.	"	31
Do. from May 1 to end of Aug.		"	55 ;	do.	"	50
Do. from June 1 to end of Oct.		"	69 ;	do.	"	59
Inches of rain during April and May		"	5.26;	do.	"	4.25
Do. from June 1 to end of Oct.		"	15.80;	do.	"	16.97
Mean temp. April and May		"	52.21;	do.	"	46.48
Do. from May 1 to end of Aug.		"	67.35;	do.	"	64.10
Do. from June 1 to end of Oct.		"	63.04;	do.	"	62.75

*9 below Zero.

Mr. Lawes, a contributor to the agricultural journals of England, says that April and May constitute the grass season, on the island of Great Britain. The wheat season begins with May and ends with August: the turnep season begins with June and ends with October. The grass season here is from the 20th of April to the end of June; the wheat season, May, June and the first half of July, the turnep season, from July first to the 25th, to the end of September.

A LARGE CALF.

On the 27th ult., a cow belonging to Samuel N. Franklin, who now resides on the farm of Mathias Hutchinson, produced a calf, well formed in every respect, which, when twelve hours old, weigned one hundred and fifty pounds. As it was weighed more than once, by different persons, we think there is no mistake. The cow is above the middle size, of native breed, and about four and a half years old.

About the same time, the cow of our neighbor, Abraham King, produced a heifer calf, which weighed one hundred and twenty pounds.

Again: David King, residing in the same neighborhood, a month since, counted beside one of his sows eighteen young pigs. Mathias Hutchinson. —*King's Ferry, Cayuga Co., N. Y., 3d mo.*, 1850.

LIVE FENCES.

Messrs. Editors:—Having been a reader of the Farmer for a few years, I have been both pleased and instructed. In an especial manner I have a deep interest in what has been said about live fences. The time is not far distant when fencing materials will be in great demand; and some are beginning to feel it already. Although my father's farm has plenty of rail timber for the present, he has thought fit to commence raising hedges, so that when he needs them he will have them. The object of writing this is to find out which is the best material. We have some of the English Hawthorn growing, but it is affected by a kind of white lice, something like those which are generally found on beech trees. Whether they will injure them or not we do not know. Some recommend Honey Locust very highly.

I would like to know your opinion concerning Buckthorn—whether it will make a durable fence and a good one; and when is the best time to plant it for a fence—in the fall, or spring; and where the seed can be obtained. I would also like to know whether the Osage Orange will answer for fencing in this climate. I would like to know, Messrs. Editors, which you would prefer if you were going to plant fences for yourselves. Where can the materials for propogating be obtained, and at what price? What is the best way of propogating?

If you will answer these inquiries through the Farmer, you will oblige—D. S. Crozier.—*Benton, February*, 1850.

Remarks.—For live fencing, in this country, there are in use—

1st. The Hawthorn, European and American.

2d. The Buckthorn, native of the New England States.

3d. The Honey Locust, native of the Western States.

4th. Osage Orange, native of the south and south west.

These are all strong, deciduous, thorny plants, that under favorable circumstances make excellent live fences. The best of them all, perhaps, is the Hawthorn, were it not that they are subject to attacks of

the *wooly aphis*, of which our correspondent complains, and of the *slug*, that devours the foliage of all this natural family of plants and some others. We know of many excellent hedges in this country of both the English and American thorn, and we believe that notwithstanding the difficulties we have alluded to, good hedges may be grown of one or the other, or both species, in all the Northern and Middle States. Our native varieties are very vigorous, and make a hedge in a very few years; but their habit of growth is not so dense as the English, and hence they require a heavier system of shearing or shortening to keep them close and impenetrable.

The Buckthorn has come into great favor of late. It is a vigorous and naturally a bushy plant, one of the hardiest of all our native species, and never attacked by disease or insects of any sort. During all the growing season, and till very late in the fall, its foliage never loses its rich deep verdure. It has but one defect, and that is, a deficiency of thorns. With more thorns it would be all we could desire for fencing in the Northern States. It has thorns, but they do not make their appearance till five or six years old, and then on the points of the shoots only. If the hedge is kept well furnished with shoots from the bottom, the fence may prove a barrier to cattle

BUCKTHORN HEDGE.

after the sixth or seventh year of its growth. No other plant is so easily raised or converted into a hedge. Plants may be bought at the nurseries at $5 per 1000. H. L. Emery, of the Albany Agricultural Warehouse, sells the berries at $13 per bushel, and clean seed at 75 cts. per quart. Spring is the best time for planting. Mr. Downing recommends the plants to be cut to within an inch of the ground line; the hedge to be planted in double rows, and the plants placed alternately, thus —

* * * * * * * * *
* * * * * * * * *

the rows six inches apart and the plants one foot apart in the rows. This requires 32 plants to a rod, or 2000 plants to 1000 feet.

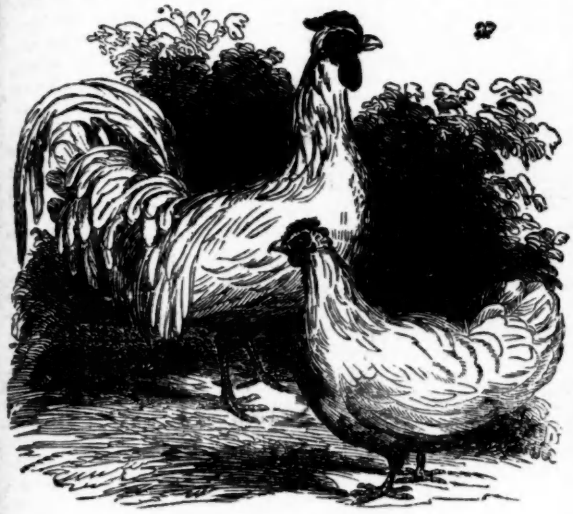
We give an engraving of a Buckthorn hedge, on the grounds of James C. Lee, of Salem, Mass.

The Honey Locust is a hardy vigorous tree with formidable thorns over every part of it. If well grown, we know of no other plant that would form such a complete and powerful hedge in a short time. Plants are sold at the nurseries at $5 to $10 per 1000, according to the age. Seeds are usually to be had at most of the seed stores. The seeds have a hard covering that prevents them from vegetating soon if placed in the ground dry. The proper way is to place them in a vessel and pour boiling water on them, and leave them until the covering begins to burst; then it may be mixed with sand or dry earth to facilitate its sowing. The soil should be light and the covering an inch deep. The plants are fit for hedge rows at one year from the seed, and may be planted as recommended for Buckthorn. We have seen excellent hedges of this plant, and we feel sure that it may be advantageously employed in all parts of the country, and particularly in prairie sections of the west, where it might be allowed to attain more than ordinary hedge height for purposes of shelter. The great point to be observed in this, as in all other live fences, will be to encourage a dense and vigorous growth of branches at the bottom.

The Osage Orange, we fear, will not prove hardy enough for the Northern States. It is a southern tree, and grows vigorous until late in the fall. The young shoots scarcely ever escape being killed a foot of their length. In New Jersey, Delaware, most of Pennsylvania, a great portion of the Western, and all the Southern and Southwestern States, it will no doubt answer well. Wherever it proves hardy we would give it the preference to all other plants, as it combines in a greater degree the requisite qualifications. Its growth is luxuriant and bushy, its foliage bright and shining, and in all parts of both old and young wood covered with stout, sharp thorns, equal to the Honey Locust. It requires, like the Locust, severe and constant pruning to prevent the upright growth from injuring the denseness and symmetry of the hedge. Plants are sold at the nurseries at about $5 per 1000 for one year plants. Seed is advertised by M. B. Bateham of Columbus, Ohio, at $1.25 per quart. We have always succeeded well by soaking the seed, for a day, in hot water before sowing. Mr. Bateham says "a patch of ground two or three rods square will be large enough for a quart of seed, and will produce 3000 to 4000 plants if successful." Planting is done in the same manas recommended for the others.

FOWLS, FOWL BOOKS, FOWL HOUSES, &c.

The letters we are constantly receiving, asking information in regard to the best and most profitable breeds of chickens, the best mode of constructing chicken houses, &c., not only shows that the subject is beginning to attract special attention at this time, but makes it our duty to give the desired information, as far as we can consistently with the pressure of other and important matters upon our columns.



THE DORKING FOWL.

The book publishers have been awake, and are prepared to meet this increased demand for information on the subject. Several works are already before the public, and others are to follow. J. P. Jewett & Co., of Boston, have published a small work at twenty-five cents, in paper covers, which is a very neat and cheap work, and can be sent by mail. We have also received from the publisher, C. M. Saxton, New York, through D. Hoyt, bookseller, of this city, a copy of "*The American Poultry Yard*," by D. J. Browne. It is certainly a beautiful book, and not less useful than beautiful. Some of the descriptions of fowls in this book accord better with our experience than any we have before seen published. The accompanying engraving and description of the Dorking fowl is from this work :

"For those who wish to stock their poultry yards with fowls of most desirable shape and size, clothed in rich and variegated plumage, and, not expecting perfection, are willing to overlook one or two other points, the Dorkings are the breed, above all others, to be selected. They are larger-bodied, and of better proportions, according to their size, than any other variety I have yet seen, their bodies being rather long, plump, and well-fleshed ; and the breeder, as well as the housewife, generally beholds with delight their short legs, full, broad breasts, little waste in offal, and the large quantity of good and profitable flesh, the flavor and appearance of which are inferior to none.

"The cocks are magnificent. The most gorgeous hues are frequently lavished upon them, which their large size and peculiarly square-built form display to great advantage. The original Dorkings are said to have been white, but such are now seldom to be seen. During all my rambles, in various parts of the country, only on one or two occasions did I meet with pure white birds. In all, however, as far as my knowledge extended, when pure-blooded, more or less white prevailed ; but the cloudings and markings of the plumage were unlimited. Many were marked with bands, or bars, of ashy-grey, running into each other at their paler margins. Some had the hackles of the neck white, with a tinge of yellow, and the body of a darker or brownish-red, intermixed irregularly with white ; while others were beautifully variegated with white, black, green, and brown, or were nearly uniform in their shades from a light cream color to almost black.

"Both the cocks and the hens are usually short-legged, thickly-feathered, having fine, delicate heads, with single, double, or large, flat, rose-like combs, which, when they are in high health, adds very much to their appearance, particularly if seen in the bright rays of the sun. Their legs are invariably white, or flesh-colored, each often armed with one or more toe-like claws ; and, instead of four toes to each foot, a fifth one protrudes from the same root as the heel toe in the common varieties, which is generally regarded as a distinguishing mark of the breed.

"The weight of the Dorkings, at maturity, varies from five to eight pounds, and full-grown capons have been known to weigh ten or twelve. Their eggs are usually of a clear white, but sometimes of an ashy-grey color, rather large in size, very much rounded at both ends, and of an excellent flavor. The hens are not "overlasting layers," although they produce eggs in reasonable abundance, but at due or convenient intervals they manifest a desire to sit, in which they often most strenuously persevere. In this respect, they are steady and good mothers when the little ones appear. Their young, in this country, have thus far proved very hardy and easy to rear. The chicks are generally brownish-yellow, with a broad, brown stripe down the middle of the back, and a narrow one on each side."

CHEAP FOWL HOUSE.

Perhaps the above engraving represents as good a form for a *cheap* chicken house as anything we could give. We have constructed one somewhat similar, of rough boards well battened, and we find that it makes a tolerably warm and a convenient house. We shall have to defer remarks on the interior arrangement, mode of constructing nests, roosts, &c., for another number.

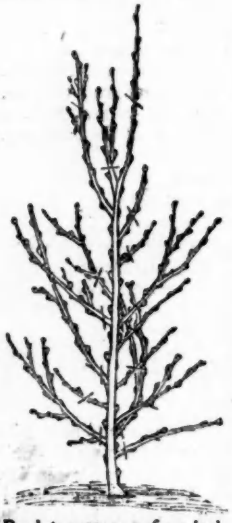
Horticultural Department.

EDITED BY P. BARRY.

A FEW HINTS ON THE PRUNING OF TREES AT THE TIME OF TRANSPLANTING.

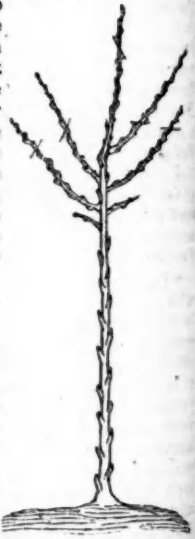
About this season of the year there is not a day, nor scarcely an hour, that we do not hear the questions asked — "Do trees require to be pruned before planting?" — "How much should I prune trees before planting?" — and so on. The truth is, that although almost everybody is planting trees, very few are aware of the importance of pruning, or understand clearly the objects it is intended to attain, or the proper mode of doing it. A great majority are satisfied with digging a hole and putting the roots of the tree into it, and leaving it there just as it came from the nursery. Hence it is that so many trees utterly perish after planting, and so many more grow feebly, and slowly, and ill-shaped.

Pruning at the time of transplanting is performed with two objects in view — one of which is to restore the equilibrium between the roots and branches, which the removal of the tree had injured by the unavoidable mutilation of the roots; and the other is to mould the tree into such a form as taste or the circumstances of its position may dictate. To accomplish either or both of these ends, we must resort to pruning; and first, let us consider it with reference to restoring equilibrium between the roots and branches.



Peach tree one year from bud.

We take, for illustration, a peach tree of one year's growth from the bud, (fig. 1,) four to five feet in height, and furnished with vigorous branches, nearly from top to bottom. Our rough sketch is made from a specimen which has the general appearance of some thousands in nursery rows, and this we presume to be the ordinary character of yearling peach trees, when grown on good soil, with clean culture, and no summer pruning or shortening of the side branches. Now it seems to us that it must appear very evident to any one who will reflect on the matter for a moment, that after this tree has been taken from the ground, with its large roots necessarily shortened, and, if long out of ground, nearly all the fibrous roots dead, it will be impossible for it to sustain such a large surface of top. If left entire, the demand that so many buds, such a large growing surface, would make upon the roots, could not possibly be supplied — a great many will consequently perish, and probably the whole tree. This is the actual history of thousands of peach trees every year. A few days ago we looked into a gentleman's little city garden, and saw a dozen peach trees that had been planted last fall. They had precisely the appearance indicated by fig. 1. We asked him if he did not intend to prune them. He replied that he was not aware that it was necessary. But so necessary is it, that unless he prunes them, he will find that in the month of June or July next they will be "as good as dead." Such a tree we would prune in this way for a *low standard*, (which is the best for both garden and orchard in this country.) We want a clean stem of at least three feet; but it will not do to strip the branches off at once. We remove entirely the longer ones only, and shorten all the smaller ones to two or three eyes. When a peach tree is pruned too heavily or closely at one time, it is very likely to gum and canker — the sap not being absorbed by new leaves or branches, becomes stagnant and bursts the bark. Severe pruning, on any of the stone fruits particularly, will result in disease. On each side of the leading shoot we see a strong branch that has outgrown and weakened it. If we wanted to continue the tree farther in a vertical direction, with a leading shoot, we would choose the strongest of these two side branches for a leader, and cut back the other and the original leader to two buds; but, as we wish to form the head of the tree, we simply cut the original leader out to a bud or two, and top the other two strong side shoots to make them branch out. The small shoots left shortened along the trunk are cut off clean next season, or in the summer as soon as the tree is in a condition to spare them. In all cases the cut is made at a good, plump bud; and if the shoot is wanted to take a vertical direction, the bud must be on the upper side of the branch; if a horizontal direction, on the lower side.



Standard cherry tree, two years old.

In trees where the side branches have been kept down by summer pinching, or by having been closely planted, the trees will have two to two and a half feet of a clear stem, with a branching head; and in this case the pruning will be similar to the pruning of the ordinary nursery standard trees, such, for instance, as a two year old cherry, figure 2. The branches have merely to be shortened, as shown by the cross lines. In all

cases where a branch has a greater vigor than is consistent with the symmetry and balance of the head, it should be cut shorter in order that the sap may pass to the weaker ones.

Pruning to produce certain forms is a different thing. We will illustrate this by two young pear trees (fig. 3 and 4) of one year's growth from the bud or graft, worked on the quince at the surface of the ground. The specimens that we have taken our sketches from are a *Bloodgood*, (fig. 3,) four feet high and furnished with numerous side branches, and a *Duchess d'Angouleme* without branches, except two small shoots at the top of the second or fall growth. Now, supposing that these are intended for pyramidal trees, we would prune them as follows :— In the Bloodgood (fig. 3) we cut off entirely the lower branch at the base. This gives space enough between the ground and the first tier of branches for the free circulation of air. The other branches we shorten, as shown by the cross lines in the cut. The stronger these branches are, and the nearer they are situated to the extremity of the leading shoot, the closer they must be cut, in order to produce equality between the stronger and weaker branches, and to retain the sap sufficiently in the base of the tree. These are the main points to be observed in conducting pyramidal trees. The very small branches are not cut at all, in order to favor their growth. One of them, that has a drooping direction, should be tied up to increase its vigor.

Dwarf pear, one year from bud, with side branches.

The *Duchess d'Angouleme*, (figure 4,) that has only two weak shoots near the top, must be cut back far enough to ensure the production of side branches near the ground; and this will depend a good deal on the strength and prominence of the buds. In some cases it would be sufficient to cut the leading shoot back to the fifth bud, and the two side shoots to two buds each; but in general we must go lower and cut to a strong bud below the side shoots; and if, even after this, the lower branches do not push with vigor enough, the upper shoots must be pinched off early in the season, to check the growth above and favor it below. It very generally happens that the two or three buds nearest the leading shoots push so vigorously as to injure it. This must be prevented by timely pinching in the summer; and in all cases where a branch is likely to acquire undue vigor, to the detriment of others and the balance of the tree, it must be checked by pinching. We shall treat of this fully in season.

Dwarf pear, one year from bud, without side branches.

THE best pea sticks are Hazel or Filbert, Privet, and Lilac bushes — all other woods tried, last but a year or two, while these last many years, especially the lilac.—*Revue Horticole, Paris.*

THE OSWEGO BEURRE PEAR.

MR. P. BARRY : — In accordance with a promise made to you last fall, when I presented you specimens of the Oswego Beurre, I will give some further history of this pear, the result of three years' experience since it was described by Mr. DOWNING, in the January number of the Horticulturist for 1847. I ate my last specimen the 19th of February inst. They were kept till this late period of winter, by packing in boxes with shorts. Every week, during the winter, previous to this date, I have eaten them, either baked or raw. Last fall a portion of the crop was kept on the tree much later than on any former year. My specimens were sound during December and January. The last, eaten the 19th of this month, was about one third decayed on one side, sound at the core, and retained the peculiar flavor of the variety well. If the Oswego Beurre be allowed to remain on the tree till a sufficiently late period in the fall, I believe it may be relied upon in this latitude, both for the table and for cooking, from the middle of October to the last of January.

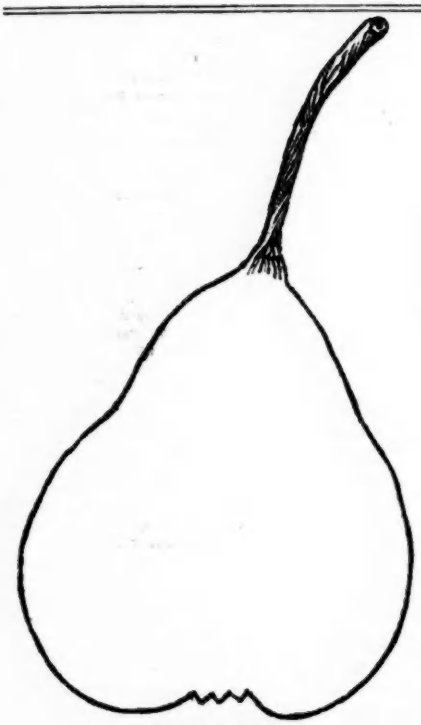
From the fact that nearly all of the specimens heretofore tested by pomologists have been picked before fully grown, it has been pronounced an acid pear. Mr. J. J. THOMAS, in the last edition of the Fruit Culturist, has very honestly no doubt said of the Oswego Beurre, it is "regarded as fully first rate by those who like the vinous flavor of the Brown Beurre or Beurre d'Aremberg." I ate a specimen of the Oswego Beurre with a Beurre d'Aremberg, on the first of January last, and found them nearly as far apart in flavor as the Lady Sweeting and Rhode Island Greening apples, tested at the same time.

Mr. N. GOODSELL, the pioneer pomologist of Western New York, who ate specimens with me, last Christmas, pronounced it one of the most saccharine pears he ever tasted. From the early and profuse bearing of this saccharine pear, I believe it would be the most profitable article to cultivate, (whether pomonal or vegetable,) for the purpose of manufacturing sugar.

Although a handsome pear, and uniformly fair, it has less of beauty than its parent, the White Doyenne. It has the red cheek, occasionally, of the latter, and approaches it nearer in general form than Mr. DOWNING's cut would indicate. Beauty excepted, it has been pronounced by the Fruit Committee of our Horticultural Society here superior to that "ne plus ultra of perfection in flavor and beauty," the White Doyenne, or Virgalieu. J. W. P. ALLEN.— *Oswego, Feb.* 27, 1850.

We may add, that, from our own experience, the Oswego Beurre proves a vigorous and beautiful grower, and an early and prolific bearer, both on pear and quince. — ED.

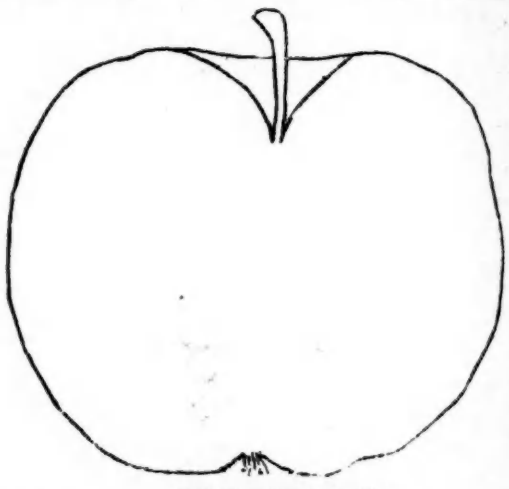
SWEET APPLES. — The scarcity of sweet apples for market should induce our fruit growers to cultivate more extensively. Let me advise, in addition to the Talman Sweeting, Chillicothe Sweet, Bailey Sweet, and other good varieties, and that the Green Sweeting be more generally grown. It is one of the finest eating apples, and for cooking, it is one of the best; and does a family want to use several barrels through the winter, it will keep firm and sound until May, when all other sweet fruit is gone. J. H. WATTS.



TYSON PEAR.

This pear, so far as we are informed, is universally acknowledged to be of the first class. It originated in a hedge near Philadelphia. The first full description published of it was in Hovey's Magazine, Vol. 12. Since then it has been frequently noticed in pomological works, periodicals, reports, &c. The largest bearing trees that we know of in Western New York, are of some ten or twelve year's growth, or more, in the orchard of Asa B. Smith, Esq., of Macedon, father of W. R. Smith, the well known nurserymen of that place. We saw these trees in in 1848, bearing a good crop of fruit. On the pear stock it is said to be tardy in coming into bearing, but it succeeds admirably on the quince, and those who wish fruit soon will choose to grow it in this way. The tree grows very much like the Seckel, but the shoots are rather longer and not quite so stout. They have the same dark, reddish brown bark.

Size medium, being usually from two and a quarter to two and a half inches long, and about two inches in diameter. Form variable, but most generally pyramidal, rounded off at the crown, and tapering gradually towards the stem, which is attached to it by a fleshy junction, quite protuberant on one side. Exterior color yellow, slightly russetted, covered somewhat profusely with black specks, and shaded with brilliant red on the sunny side. Texture fine, melting, juicy, and very rich. Color of flesh, white. Flavor richly aromatic, very sacharine, and exceedingly delicious. Core quite small. Seeds small, but plump, and of a brown color. Stem from one to one and a quarter inches long; obliquely curved and somewhat stout, as well as fleshy at its junction with the fruit. Eye round, of moderate size and depth, with the segments of the calyx short and reflexed.



THE BOURASSA APPLE.

In Lower Canada and the northern portions of this country, this is esteemed one of the very best of apples, ranking with the *Fameuse* and *Pomme Gris*, which are considered the standard of excellence. At our late exhibition of winter fruits, this variety was shown, and we believe pronounced by nearly all to be one of the highest flavored and best apples on the tables; some, indeed, went so far as to call it *the* best. For our own part, however, we think it a hardy, valuable variety for the north, high flavored and fine, but it lacks the tenderness, juicyness and delicacy of the Melon or Northern Spy, and for which we, at least, are disposed to give them the preference.

It is an apple that bears carriage exceedingly well, and a little frost does not hurt it. It keeps well, seldom becoming rotten at the core. It should occupy a prominent position in the orchard in cold northern localities. Size above medium. Form roundish conical, slightly ribbed. Stalk about three-fourths of an inch, slender, and inserted rather deeply in a pretty wide cavity. Calyx large, closed, and set in a shallow, plaited baisin. Skin reddish russet, some bright red on the sunny side. Flesh white, fine grained, crisp, not very juicy, with a sprightly, agreeable flavor. November to April.

INFLUENCE OF THE STOCK UPON THE GRAFT.

Mr. Barry: — I thank you for what you said in regard to the effects of stock upon grafts. How will you reconcile the statement of a friend of ours, who says he put scions of the "Northern Spy" into two trees, standing within two rows of each other, one on a Rhode Island Greening grafted tree, which produced beautiful and good fruit, while in the other, a natural tree, the fruit was sourer even than vinegar. Soil the same; and the trees but a few feet apart. How is all this. You must explain. J. H. Watts.

We have by no means denied that the stock has an influence on the graft. We are well acquainted with many facts which go to prove that it has; but we remarked that in grafting it would be neither safe nor practicable to any extent, to "graft only in stock that assimilate with the scions, in quality, flavor, and growth." A variety requiring such a course of treatment we should consider worthless. In re-

gard to this point, "Lindley's Theory of Horticulture" says: "It may be as well, however, to add, that there are some well attested facts relating to the preference of particular varieties for one kind of stock rather than another, which we cannot explain, but which are so important in practice as to deserve to be studied carefully." We know very well that some varieties of pear grow better and bear larger and finer flavored fruit, on the quince than on the pear stock, and some will not grow on it at all.

Some apples do much better on the Paradise stock than others. We are obliged for the fact communicated by Mr. WATTS, and we solicit cultivators to give the matter attention, and favor us with any facts on this head they may deem worth communicating.

REMEDY FOR THE CURCULIO.

MR. EDITOR: — In the May number of the Farmer is a communication from me on the culture of the plum. Had it been published in the April number, as intended, your correspondent, WM. WYLDE, of Erie co., Ohio, would have had better success in extirpating the curculio from his trees. I am rather surprised at the emphatic manner in which you state your want of faith in it as a remedy. Another year's experience has not diminished my faith in the least. To show you that it is no vain theory of my own, I send the enclosed scrap, which I cut from a stray paper that came into my hands, I think from Philadelphia, but am not positive. I think, if you will publish it, and will do so in the April number, it would prove beneficial to horticulturists, your faith to the contrary notwithstanding.

We are happy to be able to publish two direct experiments in support of the fact and discovery.

First, We bored and plugged with sulphur, in the usual way, a plum tree which commonly dropped, every year, all the plums before becoming ripe, the *curculios* lodging eggs in their germs. This was done when the tree was in blossom. On that year hardly any fruit fell, and the tree produced quite well.

Second, We find in the Genesee Farmer of January 28, 1832, that a young willow, nearly killed by aphis or lice, and ants feeding on their honey, was quite revived in three days, and all the lice and ants driven off, by boring the tree with an auger five feet from the ground and three-fourths through the diameter, filling with brimstone and plugging tight. The tree has thrived ever since.

The modus operandi of this singular process is very easy to explain. The vital energy of the tree and sap dissolves the sulphur, carries it into circulation, and evolves it in sulphuric gas, evaporating through all the pores of the branches, leaves and fruits. This gas is a deadly poison to insects and all animals, it suffocates them or drives them away as soon as they begin to smell it · but no injury whatever results to the tree.

We have never heard of any direct experiment on peach trees; but we are sure it will answer quite as well. If the sulphuric emanation could not reach quick enough the roots of the trees which are commonly attacked, the plugging must be done near the root, or at the time of the descending sap, when it will sooner reach the roots. Let it be tried and the results made known.

I will give you another fact, as to the efficacy of sulphur in the destruction of the locust borer. Six years ago this spring, I found that the beautiful locust trees which border my yard, were infested with the borer. I supposed they would soon be in the condition of some I had just seen in Onondaga county. I bored two or three holes, two thirds through the trees, and filled the holes with sulphur. The effect was perfectly satisfactory. The trees all lived and are now in a healthy condition. The succeeding summer I found large numbers in the bark, many of them dead. Whether sulphuric gas killed them, or whether they died a natural death, I do not pretend to decide. J. H. W. — *New-Haven, N. Y., March* 7, 1850. See Genesee Farmer, 1849, p. 209.

ANSWERS TO CORRESPONDENTS.

BARK LICE. — (L. H. ANDREWS, Plymouth, Ind.) Prof. HARRIS, in his "Treatise on Insects," says: "The best application for the destruction of these insects, is a wash made of two parts of soft soap and eight of water, with which is to be mixed lime enough to bring it to the consistence of thick white wash. This is to be put upon all parts of the tree, where the insects are, with a brush, so as to cover the whole surface and fill all the cracks in the bark. June, when the insects are young and tender, is the best time to do it." They are frequently got rid of by washing the trees with strong lye, and scrubbing with a hard brush, in the spring.

GRAFTING, AND THE PROPAGATION OF FRUIT TREES. — (E. S., jr., Fort Covington.) These subjects are fully treated upon in DOWNING'S, THOMAS', COLE'S, and other works on Fruit Trees; but if you will state any special points on which you wish more precise information, we will endeavor to explain.

RETARDING THE BLOSSOMING OF PEACH TREES, BY TREADING THE SNOW FIRMLY AROUND THEM. — (G. W. R., Webster.) Your communication on this subject was received too late for March, and is now out of season.

PREPARATION OF NEW LAND FOR FRUIT TREES. — (A. G. H., Waukesha, Wis.) It will answer very well to prepare large holes, say four feet in diameter, for the trees as soon as the timber is cut. The greatest objection is, that it renders the breaking up afterwards more difficult. In such soil as yours we would use the sub-soil plow by all means, if possible; though it is not absolutely necessary.

HARDIEST AND BEST PEACHES AND GRAPES. — (Charles Hanford, Alabama, Gen. Co., N. Y.) *Peaches* — Early Tillotson, Early York (serrate,) Early York large, Cole's Early Red, Cooledge's Favorite, Crawford's Early, Haines' Early, Barnard's or Yellow Alberge, Red Rare Ripe, Jacques' Rare Ripe, Snow Peach, Morris White, Lemon Cling, Large White Cling, and Oldmixen Free. *Grapes* — Isabella, Catawba, and Clinton.

APPLES. — (Gardner Goold, West Carlton, N. Y.) We think your apple is the *Vandevere* — a good variety.

THE WILHELMINA PEAR. — ("A Subscriber," Le Roy.) We have not seen the fruit of this variety, but have imported it from France as a winter pear. It is possible you have the Bartlett, though our trees, from the same importation as yours, are quite different, as we know by the tree. Our specimen tree bore last season, but the fruit was picked before we saw it. Will you send us a piece of a last year's shoot, for examination?

MESSRS. EDITORS: — Will you do us the favor to inform us what we must do to our cedar trees to keep them in a green state. We have them planted in different kinds of soil, some on sandy soil with gravel and stone sub-soil; some in clay soil; and with being trimmed or sheared, many of them will turn brown and the lower limbs die. What substance is wanted to apply to the roots to keep them healthy? T. F. — *Fullston, Beaver Co., Pa.*

We wish you had stated what sort of cedar you cultivate. We presume, however, you mean the *arbor vitæ*, which is called "White Cedar," as the Red Cedar is seldom affected as you describe. Last fall we saw these trees quite brown in many places along the banks of the Hudson. They appeared to be almost in a dying state, and we were told that it was from the effects of a protracted drought. We have not seen them so affected here. Your trees may be suffering from an unsuitable soil. The natural situation of this tree is, we know, in wet swamps and on the steep rocky banks of streams and rivers. There are many swamps filled with them through the country, so wet that in the dryest weather in summer a man will sink to the knees, and again we find them flourishing on such rocky places as Queenston Heights, where there are only a few inches of earth. In dry open situations, the trees assume a more dense and pyramidal form; so as almost to appear a different species from the marsh trees. We would infer from these natural localities, that a light vegetable mold is their appropriate element, and hence it is very probable that your trees would be benefitted with a liberal dressing of leaf-mold from the woods, or swamp muck.

Ladies' Department.

A WORD FOR THE FLOWERS.

Messrs. Editors: — While perusing the columns of your valuable paper, dedicated to agriculture and science, my attention of course was particularly directed to "*A Gossip with the Ladies*," and as you promised to make a present of a Lady's Rake to any of your fair readers who would make a good use of it, I claim it, on the grounds that I am generally considered very fair, and likewise have a great taste for gardening. Yours, &c., H. A. C. — *Canandaigua, March*, 1850.

We have "one more left of the same sort," waiting a claimant; and as we wish them used, not only zealously, but intelligently, a few hints may not be inappropriate. We doubt not, during the last season, many of the readers of this article, as they observed the garden of their friends and neighbors, and were charmed with beauty and fragrance, such as a well-kept garden only can afford, regretted that they possessed not the knowledge necessary to make their own gardens bud and blossom, or that the knowledge they possessed had not been put in practice. But, alas! it was then too late! the spring had departed and with it the opportunity to sow and plant, summer had come, rewarding the industrious cultivators with the realization of their hopes, and telling as plainly as fruits and flowers can speak to the sensibilities of man, that intelligent industry meets its own reward.

Spring has again returned. April sun and showers will again warm into life and vigor the vegetable world. After the long repose of winter, each plant will appear to vie with its fellow, in the race of life and activity. We all start again on equal terms. Those who plant the best and cultivate the best shall reap the most abundant harvest. Now is the time to put into execution your good resolves, your well-formed plans. Delay a little longer — wait for a more convenient season — and the golden moment will be gone, and your regrets will be unavailing — the garden of your neighbor will cause your own and its owner a blush.

The ladies are the patrons of flowers the world over. As a general thing, perhaps, the men have not sufficient refinement to *love flowers*. Indeed, many *affect* a *manly* contempt of such trifles. Yet, we pity he man who has traveled far on the journey of life, without stopping for a moment to do them homage. They say they are of no *utility*. And is it for *utility*, Mr. *Utilitarian*, that you have built, and painted, and decorated, that fine house, in place of your former residence — as commodious, and equally convenient, though less pretending. Would your barbarous hands tear from the cottage the honeysuckles, the running roses, the Jessamines? Without these the cottage is a poor affair — old, rough, and unsightly. Covered with this drapery of nature, it is a gem of beauty which you might well envy and imitate. Is it of use, then, to spend your hundreds of dollars in beautifying your own residence, and of *no use* for the poor cottager, by the exercise of skill and taste, to made his residence a perfect picture of loveliness, showing the taste and refinement, while yours exhibits only the wealth of its possessor?

Those who undertake to cultivate flowers with little knowledge, are apt to be discouraged at the labor required. To persons who can only devote a spare hour to their flowers in the evening or morning, we would by all means recommend the Petunias and Verbenas. These are trailing or spreading plants, combining a great diversity of colors; and when a good selection of colors are planted together, they intermingle and form masses of great beauty, and no dry weather affects them — indeed, they love the warmest weather; and when other things are shrinking and withering, they are most flourishing. They may be grown in borders; but their appropriate place is in beds or figures of any shape, cut in the grass plot. To these we would add a few of the beautiful Dwarf Phloxes, Perpetual Roses, Scarlet Geraniums, and a few other choice things of this sort, and we have a flower garden gay with flowers from July to October, through all sorts of weather.

NEMOPHILA MACULATA.

The cultivation of annuals, to do it *well*, and no other way is satisfactory, requires a great deal of attention. Some want forwarding in a hot bed, transplanting, shading, watering, and watching in so many ways, that unless the greater portion of the time of one person can be devoted to them, the results will be noways satisfying. Still, there are a few really good and beautiful things that every body may have, because the seed may be sown in the border where they are intended to bloom, and require afterwards but to be kept clean of weeds, or thinned out; or, perhaps, a little tieing up, or pegging down, as the nature of the plant or the case otherwise may require. Of these, we will just mention, the *Mignonette*, that every one knows and loves for its sweetness; the *Phlox Drummondi*, a dwarf plant of all shades of pink and purple; *Sweet Alyssum*, white and sweet, very dwarf; *Sweet Peas*, of various colors; *Portulacca*, scarlet, pink and yellow varieties, a spreading, succulent plant, that loves the hottest and dryest of summer weather; *Viola Tricolor* or *Pansy*.

Nemophila insignis, is a dwarf plant with charming blue flowers, and a new species, *Maculata*, of which we give an engraving, has beautiful spotted flowers, of a procumbent habit, and the whole plant is covered with short, spreading hairs. The flowers grow from the axils singly, on stalks longer than the leaves. Another word on this subject next month.

Youths' Department.

AGRICULTURE.—No. 3.

In our previous numbers we gave the COMPOSITION OF PLANTS — the material of which they are formed. Now, the common sense of all will teach them that this material must be derived from some source. Plants obtain their food partly from the air and partly from the soil — they take it from the air by their leaves, and from the soil by their roots. These roots consist wholly, or in part, of small *fibrils*, or minute, slender branches, as seen in figure 4. The delicate extremeties of these *fibrils* are called *spongioles*; and they are the organs which, by the all-wise provision of the Creator, absorb from the soil just such food as is necessary for the sustenance of the plant. If this food is found in sufficient quantity, the plant *flourishes*, if not, it *starves*.

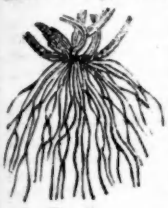


FIG. 4.

In the LEAVES are many small openings or mouths, by which they suck in from the atmosphere whatever is needed for their growth.

As plants are composed of two parts—the *organic*, or that part which burns away, and the *inorganic*, which is left after the plant is burned, — so they require two kinds of food — organic food for the organic part, and inorganic food for the inorganic part. The organic food is obtained partly from the air and partly from the soil; the inorganic food wholly from the soil. Plants obtain their food from the air mostly in the form of carbonic acid gas, which exists in the air only in small quantities. It is this gas which causes the boiling up of soda water. It is heavier than common air. You can make it and see its properties by pouring diluted muriatic acid upon pieces of limestone in a tall glass, as seen in fig. 5. It is so heavy that you can pour it from one glass to another. A lighted taper put into it will be extinguished.

FIG. 5.

The air never lacks its part of the nourishment of plants, and man can do nothing to improve it. But the soil is under man's control, and he can supply, when he knows the composition of his soil, and the composition of any plant, what may be lacking of material to make that plant; and he can grow certain plants on his land until they eat up all of their proper food, and then he can make them grow no more, until he furnishes to the soil the lacking substances. As all the inorganic part, and much of the organic part, of plants is obtained from the soil, it is of the highest importance to farmers to know the nature of their land.

The SOIL, like plants, is composed of an *organic* and an *inorganic* part — each part supplying its appropriate food to the plant. The *organic* part in good land is from one-tenth to one-twentieth of the whole. In peaty soils it is much greater. This is the reason that muck from a peaty bog makes a good manure for land lacking in organic matter. This part of the soil is derived from decayed roots, leaves, &c., the dung and bodies of animals, &c. As this organic matter is taken from the soil by the roots of plants, the land must of course become poorer and poorer, and less able to bear a crop, until at last it becomes what is called *worn out*. To prevent this, organic matter must be supplied in barn-yard manure, by which is returned to the field the hay, straw, &c., taken from it, and by plowing under clover and other green crops, &c.

The INORGANIC part of the soil consists of *sand, clay, lime, potash, soda, magnesia, oxide of iron, oxide of manganese, sulphuric acid, phosphoric acid*, and *chlorine*. Just the same substances that we told you in our last number were found in the ash of plants. These substances plants take from the soil with their roots, in a liquid state, being dissolved by rains, snows, and spring water, in the same way that you would dissolve salt in water. All productive soils contain these substances, though in different proportions.

A FAMILY SCENE. — The following little scene is by MRS. SIGOURNEY. It should teach our young readers the importance of being able to render themselves useful in a time of misfortune:

'I have lost my whole fortune,' said a merchant as he returned one evening to his home; 'we can no longer keep our carriage. We must leave this large house. The children can no longer go to expensive schools. Yesterday I was a rich man, to-day, there is nothing I can call my own.'

'Dear husband,' said the wife, 'we are still rich in each other and our children. Money may pass away, but God has given us a better treasure in those active hands and loving hearts.'

'Dear father,' said the children, 'do not look so sober. We will help you to get a living.'

'What can you do, poor things?' said he.

'You shall see! you shall see!' answered several voices. 'It is a pity, if we have been to school for nothing. How can the father of eight children be poor! We shall work and make you rich again!'

APRIL.

BY LONGFELLOW.

When the warm sun, that brings
Seed-time and harvest, has returned again,
'Tis sweet to visit the still wood, where springs
The first flower of the plain.

I love the season well,
When forest glades are teeming with bright forms,
Nor dark and many-folded clouds foretell
The coming in of storms.

From the earth's loosened mold
The sapling draws its sustenance, and thrives:
Though stricken to the heart with winter's cold,
The drooping tree revives.

The softly-warbled song
Comes through the pleasant woods, and colored wings
Are glancing in the golden sun, along
The forest openings.

And when bright sunset fills
The silver woods with light, the green slope throws
Its shadows in the hollows of the hills,
And wide the upland glows.

And when the day is gone,
In the blue lake, the sky, o'erreaching far,
Is hollowed out, and the moon dips her horn,
And twinkles many a star.

Inverted in the tide
Stand the gray rocks, and trembling shadows throw,
And the fair trees look over, side by side,
And see themselves below.

Sweet April, many a thought
Is wedded unto thee, as hearts are wed;
Nor shall they fail, till, to its autumn brought,
Life's golden fruit is shed.

Editor's Table.

ACKNOWLEDGEMENTS.—Our friends have placed us under so many obligations, in the way of books, pamphlets, reports, &c., that we fear their very kindness will cause on our part apparent neglect. It would be impossible for us publicly to acknowledge the receipt of the mass of communications, &c., with which we are favored. We are particularly indebted to B. P. JOHNSON, Esq., for Prof. JOHNSTON'S Lectures — some friend in Boston, for the Report of the Fowl Convention — Patent Office, Washington, for a valuable package of seeds — JOHN W. LINCOLN, Mass., for Transactions of Worcester Agricultural Society.

HOVEY'S MAGAZINE OF HORTICULTURE AND RURAL AFFAIRS.—This journal commences its sixteenth volume at the low price of $2 per annum, $3 being the former price, and the work is much better at this moment than it has ever been. For thirteen years we have looked to it monthly for useful and interesting information on gardening matters; it is only natural therefore that we rejoice in its success. We recommend it heartily to all who are seeking horticultural information, and its low price renders it accessible to all classes. D. M. DEWEY is the agent in Rochester.

DURHAM STOCK — MR. BATES' HERD. — We reluctantly admitted the article of Mr. STEVENS on this subject, as we think we can fill our columns with matter of more general interest than the discussion of these nice points. We think the experiments and experience of their brother farmers would be far more acceptable and profitable to our readers. Mr. S., however, considered his remarks misunderstood, and wished to make the correction; at the same time stating his intention, if he considered anything further should be necessary on the subject, to publish it in pamphlet form.

We are glad to see that the political editors throughout the country are introducing *Agricultural Departments* into their respective papers. In this way agricultural information is placed before thousands of farmers who will not take an agricultural paper. And we are not the less pleased that these papers copy column after column from the Farmer, although many do it without giving us a word of *credit*.

AGRICULTURAL BOOKSTORE. — It will be seen by an advertisement in this number, that Mr. CHAS. B. NORTON has opened an Agricultural Bookstore in New York. Those wishing agricultural books can depend upon the honor and integrity of Mr. NORTON.

WEATHER AT THE WEST.—POWELL HOWLAND, of Indianapolis, Ind., writes, Feb. 24th., as follows:—"Our winter has fairly vanished, and the weather has not been cold enough this winter to freeze the streams of two to six rods wide so as to bear a man, unless in some mill-pond. The ground is fairly settled. Wheat looks as fine as it can. On the 4th of February we had a sharp freeze that may hurt peaches." HENRY G. WATKINS, of Reed's Grove, Illinois, says: "We have had a very mild, open winter, with but little snow. Pigeons were seen on the first instant, and blue-birds to-day. The California fever is raging here to an alarming extent, and many of our citizens will be carried away by it."

IN A DILEMMA.—A correspondent says he is in a dilemma. He has bought a sub-soil plow, but is afraid to use it unless his land was drained, and he is too poor to drain, and asks our advice. Don't fear — use the plow. To satisfy yourself, sub-soil one half of a field and plow the other half in the ordinary way, treat it alike in every respect, and see its effect, and next year you will be *giving* instead of *asking* advice. As soon as you can raise the means, thoroughly drain a small piece, and see for yourself the effects of draining.

MONROE CO. AGRICULTURAL SOCIETY.—A meeting of the Executive Committee was held at our office, March 13th, when it was determined to make increased exertions to render the Society more efficient, and particularly to make the fair of the present year one worthy of the Society and the County. The Committee ask the co-operation of their brother farmers, and all friends of progress. The next meeting of the Society will be held in May.

THE Prairie Farmer for February contains the following paragraph:

THE GENESEE FARMER.—This paper has changed hands once more. Its old proprietor, Dr. DANIEL LEE, having become tired of going to Athens in Georgia to make an Agricultural paper, has returned, and succeeds Mr. MOORE as the publisher of the Farmer. We observe little in the paper that would mark the change, except that it talks rather more of making mud and turf into bones and tallow, and so on. We have no doubt that having got the hang of the thing, Dr. LEE will make the Farmer a first rate paper. The price of it is only 50 cents; but if the editor chooses to work for nothing, which he must do at that rate, it is none of our business. Mr. BARRY still edits the Horticultural Department.

Our friend of the P. F. is in error in the above statements. "Dr. DANIEL LEE," the "old proprietor" of the Genesee Farmer, never sold to Mr. MOORE, nor to any other person, the interest which he has held in the paper since 1845, and purchased of Mr. FOGG. The remark, "This paper has changed hands *once more*," and what is said about the editor's "working for nothing," seem to imply that there is a screw loose somewhere out West.

Now, we plead guilty to the offence, if it be one, of being willing to perform a great deal of labor for a little pay, for the *hope* of doing some good through the medium of the cheapest agricultural journal in the world. There are some millions of farmers in the United States, who read no book nor periodical designed to illustrate the principles of tillage and farm economy. To reach these is an object of incalculable moment; and *experience* has demonstrated the fact, that a larger number will take a fifty cent than a dollar paper. Undoubtedly the editor and proprietor of this journal could make more money for himself by raising its price to that of the Prairie Farmer, than to keep it where it is; but so long as the friends of the Genesee Farmer will stand by it as they have done, it shall go for the *cause* and not for *money*. Reader! see that this, your old companion, has a circulation which will cover its current expenses, and it will neither be discontinued nor have its price raised. One who is willing to work twelve hours every day, in this country, is not likely to beg his bread.

It is extremely desirable to give the Farmer a circulation of 100,000 copies: not because it will benefit its proprietor, but for the good that will accrue to the great Agricultural Interest of the Union. Let it break the ice of prejudice against rural literature and rural science, and then the one, two, and three dollar journals will have easier sailing with the popular current created by our little pioneer craft that has gone ahead.

THE PEACH CROP.—We learn by the Ohio Cultivator, that the destruction of the peach buds by the winter is very extensive at the west. Here, everything in the fruit way looks well — not a bud or branch of anything we call *hardy* has been in the least effected.

EMERY'S CYLINDER DYNOMOMETER. — We have barely space to refer our readers to the advertisement of this useful instrument. An article with description, &c., prepared for this number, we are compelled to defer till our next.

TO COMPETITORS FOR OUR PREMIUMS. — The competitors for our Premiums stood as follows, on our books, on the 15th of March — arranged according to the numbers sent, commencing with the highest:—

Joseph Watson, Clyde, N. Y.; E. C. Bliss, Westfield, N. Y.; E. Howland, Mechanicsville, N. Y.; J. H. Stanley, Le Roy, N. Y.; Orrin Bishop, Dundee, N. Y.; John Davis, Birmingham, Mich.; Moses Eames, Rutland, N. Y.; Wm. Knox, Waterloo, N. Y.; John L. Dolsen, Chatham, C. W.; Allen Hale, East Smithfield, Pa.; Isaac Minard, Hume, N. Y.; James Fraser, York, N. Y.; R. A. Woodcock, Oxford, C. W.; John Row, Riga, N. Y.; Silsby & Keeler, Seneca Falls; B. Coddington, Jr., Benton, N. Y.; Dr. Dow, Marion, N. Y.; O. C. Comstock, Marshall, Mich.; J. Wykoff, Romulus, N. Y.; A. Franklin, Honeoye, N. Y.; W. H. Pattison, Saline, Mich.; Apollos Kent, Amboy, Ohio; M. Beadle, Marengo, N. Y.; Lyman Strobridge, Trumansburgh, N. Y., L. L. Pratt, Fredonia, N. Y., C. Hubbard, Adams Center, N. Y.; R. Craig, Portersville, Pa.; T. S. Cowles, Springfield X Roads, Pa.; Jas. C. Robinson, Penn Yan, N. Y.; Jas. Macomber, Farmington, N. Y.; Peter Himrod, Lodi, N. Y.; J. H. Bailey, Perry, N. Y.;

☞ Competitors must bear in mind that additions to their lists must be mailed so as to reach us by the 15th of April, as at that time we shall make out our report for the May number.

Important to Farmers.

AGRICULTURAL BOOK STORE.

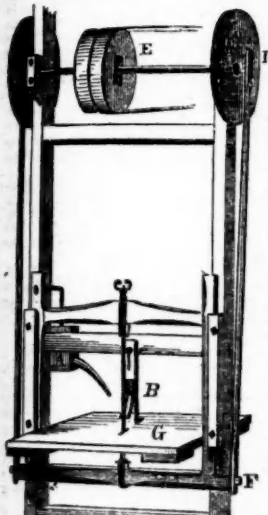
THE Subscriber has opened a Store at No. 71 Chambers st., "Irving House," New York, where he will be happy to attend to all orders for AGRICULTURAL or other Works, which will be sold at prices as low as can be furnished by any other house in the city.

☞ Books sent by mail or Express, carefully packed, to any part of the Union. Address CHARLES B. NORTON,
Agricultural Book Store, New York.

Upright Saw Mill,

FOR SAWING CURVED WORK IN WAGON MAKING, CABINET, WORK, &c.

THE annexed cut represents the most simple and effectual arrangement for a saw mill for the purposes designed.



As these are made, they are equally well adapted for our one Horse Power, or may be used by steam or water power as desired. Its construction is a simple frame with two uprights from 8 to 12 feet feet long, with three cross beams 3½ feet long, of 3½ by 6½ inches square. Near the upper end is hung a straight shaft with fly wheels D on each end, outside the frame.

E, two driving pulleys, (one loose.)

C, wrist pins in fly wheels, to drive connecting rods.

F, connection of the driving rods and lower part of saw gate.

G, table.

B, dog for holding down plank, &c.

A, wind box and pipe for cleaning away sawdust.

These mills can be afforded complete for $35, ready to be driven by horse, steam, or water power. They are warranted to be superior to any thing of the kind heretofore offered — and with one of the Railroad Horse Powers, is an important acquisition to mechanics having heavy or curved sawing to do.

Manufactured and for sale at the Agricultural Warehouse of
H. L. EMERY.
April 1, 1850. 369 & 371 Broadway, Albany, N. Y.

N. B. The whole can be taken to pieces and packed for shipment to any part of the country. Weight about 300 pounds.

Monroe Nursery.

THE Subscriber would remind his friends and the public that the season of transplanting trees is at hand, so that those, who intend to set out trees this spring, would do as well to make an early selection.

He is ready to make contracts wholesale or retail. His trees are of the most thrifty growth and well assorted, consisting of fruit and ornamental trees, together with a beautiful stock of green house plants, all at reduced prices.

☞ Applications, (post-paid) will be promptly attended to.
Greece March. 1850. [4-2t] CHARLES POWIS.

Alonzo Frost,

LAND AGENT, NURSEYMEN, JUSTICE OF THE PEACE,
HOUSE NO. 120 SOUTH SOPHIA ST., OFFICE IN CHILD'S BLOCK,
OPPOSITE THE ROCHESTER HOUSE.

A GOOD assortment of most articles in the Nursery line on hand, and arrangements made by which orders can be filled on as good terms as elsewhere. Those wishing to obtain fruit trees will consult their interest by calling and examining before purchasing from others. Also 50,000 Cherry seedlings, Black Mazzard.
April 1, 1850. [4-1t*]

Botanic Garden Nursery.

WATERLOO, SENECA COUNTY, N. Y., 4½ miles N. W. of Waterloo Village on the Vienna road. The subscriber offers for sale at wholsale or retail, a variety of FRUIT TREES selected by pesonal inspection from Bearing Trees, comprising Apples, Peaches, Cherries, &c. A choice selection of Evergreen and Deciduous Trees and Shrubs. Also, a superb assortment of Herbaceous Perennial Flowering Plants &c.

Native Trees, Shrubs and Plants Collected by the 100 or 1000 if ordered early.

Orders promptly executed and trees and plants packed for safe transportation to any part of the United States, Canada, or Europe.
[4-1t*] WM. S. DELL.

Highland Nurseries, Newburgh N. Y.

(LATE A. J. DOWNING & CO.)

THE PROPRIETORS beg leave to inform their patrons, and the public in general, that their stock of
FRUIT AND ORNAMENTAL TREES, SHRUBS, ROSES, &c., for Spring planting, is unusually large and thrifty, and embraces all of the best varieties introduced into notice in this country or Europe; of Apple, Pear, Plum, Cherry, Peach, Nectarine, Apricot, Grape Vines, Gooseberry, Currants, Raspberry, Strawberry, &c.

Portugal Quince trees, standards extra size, each..... $1 00
do do do quenouille, do do..... 1 00
Angers, (true,) extra..... 1 00
Trees of the usual size,..... 0 50
Also, *Pears* on Quince, and *Apple* on Paradise stocks, for dwarf trees.

The stock of Ornamental Trees, shrubs, &c., is very large; and quantities to dealers or planters, on a large scale, will be furnished at greatly reduced rates.

HEDGE PLANTS.

A large stock of Buckthorn and Osage Orange plants.
Also, a large stock of Rhubarb and Asparagus roots.

The entire stock has been propagated under the personal supervision of A. SAUL, whose long connection with this establishment is some guarantee, from the reputation it has gained, (and the present proprietors are determined to merit,) as to the *genuineness* and accuracy of the present stock.

Orders respectfully solicited, and will receive prompt attention, which will be carefully packed and shipped to any part of the Union or Europe.

Catalogues furnished *gratis* to *post-paid* applicants.
[4-] A. SAUL & CO.

To Fruit Growers and Nurserymen.

SPRING OF 1850.

THE SUBSCRIBERS invite the attention of tree purchasers to their stock now offered for sale. By large importr ions from Europe, and an extensive scale of propagation in their own grounds, they are enabled to offer one of the most extensive and complete assortments, and on the most liberal conditions.

The well known health, hardiness, and vigor of the trees grown here, and the undivided and scrupulous attention given to every department by the proprietors in person, offer great inducements to purchasers.

Standard Fruit Trees.
Pyramidal and Dwarf Fruit Trees.
Gooseberries, Currants, Strawberries, &c.
Ornamental Trees and Shrubs.
Roses, Dahlias, &c.
Hedge Plants, (including large quantities of Buckthorn and Osage Orange.)
Stocks for Standard and Dwarf Trees.

And all other Nursery Articles, besides a large collection of GREENHOUSE, BORDER and BEDDING PLANTS. Wholesale priced lists sent gratis to all post-paid applications. A separate Catalogue for 1850, of Roses, Dahlias, and other new and rare articles will be also furnished.

ELLWANGER & BARRY.
Mount Hope Garden & Nurseries, Rochester, N. Y.
February 1st, 1850.

Rare Evergreen Trees.

WE have on hand a fine stock of
DEODAR, or *Indian Cedar;*
ACRACARIA, or *Chili Pine;*
CEDAR OF LEBANON;
ABIES MOBINDA, or *Himalayan Spruce;*
PINUS EXCELSA, or *Lofty Pine;*
PINUS CEMBRA, or *Cembrian Pine;*
CRYPTOMERIA JAPONICA;
TAXODIUM SEMPERVIRENS;
and many other species all in pots, imported last season, and well established. Priced lists furnished on application.

ELLWANGER & BARRY,
Mount Hope Garden & Nurseries, Rochester, N. Y.
March, 1850.

Engraving.

E. BALDWIN, would respectfully inform his friends and the public generally that he has located himself in Rochester, and is prepared to execute all descriptions of Engraving, Seals, Labills Machinery, Visiting and Wedding Cards, Letters, Book and Cloth stamps, Views of Buildings or Animals, in short every thing in his line will be done neatly and reasonably. He will also keep on hand an assortment of

JUVENILE BOOKS,

such as Young Toy Books, Dream Books, Primmers, &c., illustrated with fine wood cuts, plain and colored. Letter and fancy envelops, motto wafers, Prints, Lead pencils, &c..&c., which he will sell for cash at New-York prices. All those wishing anything in his line will please call at No 15 third floor Reynolds Arcade, Rochester N. Y.

BACK VOLUMES of the Farmer we can furnish bound. Also, all works on Agriculture and Horticulture, Poultry, Sheep, &c.

HOVEY'S MAGAZINE OF HORTICULTURE, BOTANY AND RURAL AFFAIRS.

VOLUME XVI, FOR 1850.

Price Reduced to Two Dollors a Year.

Publishing in monthly numbers—making an annual volume of 600 pages.

☞ COMPLETE SET IN FIFTEEN VOLUMES, BOUND IN CLOTH, TWO DOLLARS EACH.

THE sixteenth volume of the Magazine commenced on the first of January, 1850. and with a view to give it a more extensive circulation, the price has been reduced to TWO DOLLARS A YEAR, making it the *cheapest*, as it is the *oldest*. and acknowledged to be the *best* periodical in Horticulture ever published. The FIFTEEN VOLUMES already completed, contain a greater amount of Horticultural information, than is to be found in any other work extant. More than 300 varieties of Pears have been figured and described in the several volumes. and every fruit, flower. and vegetable introduced into the country up to the present time have been noticed or described in its pages. Its list of contributors embraces all the most eminent amateurs and practical cultivators in the country.

The Magazine contains;

ORIGINAL CORRESPONDENCE, upon every department of Horticulture.

POMOLOGICAL NOTICES, with descriptions of all new fruit worthy of cultivation.

FLORICULTURAL NOTICES, of every new, rare, or beautiful flower.

NOTES on GARDENS and NURSERIES

POMOLOGICAL GOSSIP, a monthly digest of Pomological information.

REVIEWS of all works on Horticulture, Botany, &c.

GENERAL, FOREIGN and DOMESTIC NOTICES.

REPLIES to CORRESPONDENTS, on subjects connected with Horticulture.

HORTICULTURAL OPERATIONS for every month of the year.

ENGRAVINGS of Fruits, Flowers, Plants, Garden Structure, &c.

The Magazine is published monthly—in octavo numbers, forty-eight pages each: printed on a beautiful type, and on the finest paper, and furnished at the low price of $2 a year in advance.

☞ Post-Masters, Agents and others, who are interested in Horticultural Improvements, are respectfully solicited to obtain subscribers. Address the Publishers,

HOVEY, & CO.
April 1, 1850. 7 Merchants' Row, Boston

The American Fowl Breeder.

A NEW AND VALUABLE BOOK; Containing full information on Breeding, Rearing, Diseases, and Management of DOMESTIC POULTRY;

By an Association of Practical Breeders.

The above valuable book is just published by JOHN P. JEWETT & CO., Cornhill, Boston; and it is offered at the extremely low price of

25 CENTS PER COPY,

to bring it within the means of every man interested in Poultry.

☞ WE WANT 100 GOOD FAITHFUL AGENTS, to sell this Work in every County in New England, New York, Pennsylvania, and the West; in connection with

COLE'S AMERICAN FRUIT BOOK,
AND
COLE'S AMERICAN VETERINARIAN.

Active and intelligent men can make money at the business.—Address, *post paid*, the Publishers, JOHN P. JEWETT & CO.,
Cornhill, Boston.

P. S.—*The American Fowl Breeder* is done up in thin covers, and can be sent to any part of the country by mail. Any person sending a quarter of a dollar by mail, *post paid*, shall receive a copy of the work. [3-2t]

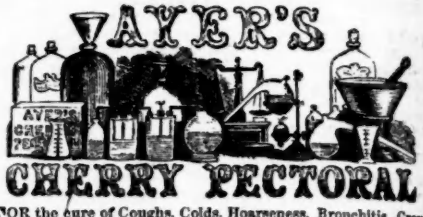
A Rare Chance—Important to Wool Growers.

THE Subscriber having recently purchased of Merril Bingham, of Vermont, at a great price FIVE BUCK LAMBS, from pure blooded Spanish Merino Ewes sired by the celebrated French Merino Buck, imported at a great expense by Mr. Bingham and J. A. Taintor, of Connecticut, in 1847, offers the same for sale to farmers in this section, desirous of improving their stock of sheep. The chance is a rare one, as the pedigree of these sheep have been substantiated beyond a question, and the evidence is *in hand*

The sub-criber also purchased 30 pure blooded Spanish Merino Ewes, all in Lamb, by the old imported Buck above mentioned and now owned by Mr. Bingham, and a full blooded French Merino Ewe and Buck at $200, which will be held for service another fall. This class of imported sheep shear from 18 to 23 lbs. of pure washed wool to the head. The size of carcass exceeds any thing now known in America.

He is fully confident that the superior advantages and the opportunity for great improvement thus offered to the Wool Growers of this county and section of country, will be duly appreciated All who wish to purchase or examin the FOREIGN BLOOD, can do so at any time by calling at his residence three miles north of Albion, and one mile north of Fair Haven.

JOHN J. McALLISTER.
Gaines, March 15, 1850. [4-3t]



FOR the cure of Coughs, Colds, Hoarseness, Bronchitis, Croup, Asthma, Whooping-Cough and Consumption. In offering to the community this justly celebrated remedy, it is not our wish to trifle with the afflicted—but frankly and faithfully to lay before them some of the evidences of its cures, from which they can judge for themselves. The following testimony is not from men of whom you have never heard, but men known to the world, and the world respect their opinions:

PROF. WEBSTER, of Harvard College, says, in a report to the Massachusetts Charitable Mechanincs' Association: "The evidences of its success as a remedy, sufficiently show that it may be relied upon with confidence for the relief of the numerous and afflicting pulmonary diseases incident to our climate."

From BENJ. SILLIMAN, M. D., LL. D., etc., Professor of Chemistry, Mineralogy, &c., Yale College, Member of the Lit. Hist. Med. Phil. and Scien. Societies of America and Europe: "I deem the CHERRY PECTORAL an admirable composition from some of the best raticles in the Materia Medica, and a very effective remedy for the class of diseases it is intended to cure."

Tee New Orleans Medical and Surgical Journal says: "No medicine or combination of medicine has been found to afford such results, and with such uniform certainty, in milder symptoms, or more formidable and dangerous affections of the lungs."

HEAR THE PATIENT.

U. S. HOTEL, SARATOGA SPRINGS, July 5, 1849.

DR. J. C. AYER—Sir:—I have been afflicted with a painful affection of lungs, and all the symptoms of settled consumption, for more than a year. I could find no medicine that would reach my case, until I commenced the use of your CHERRY PECTORAL, which gave me gradual relief, and I have been steadily gaining my strength till my health is well nigh restored.

While using your medicine, I had the gratification of curing with it my reverend friend, Mr. Truman, of Sumpter District, who had been suspended from his parochial duties by a severe attack of bronchitis.

I have pleasure in certifying these facts to you.

And am, sir, very respectfully,
J. F. CALHOUN, of South Carolina.

Prepared by J. C. AYER, Chemist, Lowell, Mass, and sold by the Druggists everywhere. [4-1]

Doct. A. A. Morgan, Dentist,

WOULD respectfully announce to his friends and former patrons, and to the citizens of the surrounding country, that he can be found at the old stand of Beers & Morgan, corner North St. Paul and Main streets, ever ready to attend to their calls in that style so universally admired. He would also solicit the continuance of that patronage so liberally bestowed in years past. He will, on the shortest notice, furnish plates from one to an entire sett, on fine gold, and fill decayed natural teeth so as to preserve them during life. To the Profession, he would beg leave to state that he has constantly on hand an article of gold and tin foil, beaten expressly for him by a Philadelphia House, which cannot be surpassed. It is put up in $4 books, so that it can be safely mailed to any part of the State or Union; also, a good assortment of teeth, which he is selling at New York prices. ANSEL A. MORGAN.
Rochester, February, 1850. [3-tf.]

Ellwanger & Barry

WISH to say that the only traveling agents authorized to do business in their name, are ROBERT BLAIR, HIRAM SICKER, and HENRY COLLINS.

They feel compelled to make this announcement in consequence of other persons representing themselves as their agents.

Mount Hope Garden and Nurseries,
Rochester N. Y., March, 1850.

C. J. Hayden's

CABINET AND CHAIR WAREHOUSE

CONSTANTLY on hand every variety of CABINET FURNITURE, every style of Beadsteads and Chairs, which he is now offering at GREATER BARGAINS than can be had elsewhere in Western New York.

No. 6, Front street, Rochester, N. Y.

☞ All work warranted good, or no sale. [4-2t]

Burrall's Clover Mill.

FOUR sizes made and sold by the Subscriber at Geneva N. Y. warrante: to be thoroughly built and to work well. Among other premiums awarded, this Machine was the first, at the late State Fair.

Orders from abroad, or inquiries in respect to it, promptly attended to. [4-4t] E. J. BURRALL.

SEYMOUR & MORGAN'S

IMPROVED REAPING MACHINE,

MANUFACTURED AT BROCKPORT, MONROE CO., N. Y.

THE subscribers are preparing to offer to the Farmers a superior REAPING MACHINE. Having for years been engaged in manufacturing a large number of *McCormick's Reapers*, they are confident that the Reaper which they are now manufacturing is far superior in every respect to any other now in use. It was thoroughly tested in the harvest fields last year and gave entire satisfaction to all who witnessed its operation. It surpasses any machine now before the public in many important points;—the *Cutter* or Sickle being in sections, in case of accident can be repaired by a good Blacksmith, without the owner being obliged to go to the manufacturers for a new blade. The ground wheel is 3 ft. in diameter, and all the geering runs in iron boxes. An early order is important from those wishing to purchase a machine, as we have already contracted for the sale of 300 for the West. In all cases a liberal warrant is given to the purchaser.

The improved Reaper was constructed under the supervision of our Foreman Mr. GEO. F BURNET, who has been engaged three years for us in the business. SEYMOUR & MORGAN.

Brockport, December 25, 1849.

CERTIFICATES.

SWEDEN, NOV. 12, 1849

Messrs Seymour, Morgan & Co.—In my harvest, last season, I used one of your Improved Grain Reapers. I had formerly used one of McCormick's Improved Virginia Reapers, I have had considerable knowledge of them. In comparison, I think yours decidedly preferable; firstly—in point of perfection in cutting, which is the great desideratum, it is far in advance of his, and next, in ease of operation, I think it has decided advantage. I did not obtain your Reaper until a large part of my harvest was completed; consequently I had not an opportunity to test the amount that could be cut in a day, still I am satisfied that it is capable of cutting from fifteen to twenty-five acres per day, and that, too, in the most perfect manner. I used no change of team. I did not find it necessary in doing an ordinary day's work—about fifteen acres per day. I tested your machine in wet grain and when there was grass at the bottom; here I found it had a great advantage over other Reapers in use, it being able to go through almost any grain, some badly lodged, without any apparent difficulty of clogging the knife. And from my experience I think it a valuable labor-saving-machine, and would cheerfully recommend it to the attention of farmers, as I think grain can be cut with it, all expenses counted, at half the cost of cutting it the ordinary way—Wheat can be bound and shocked in a better manner, and with less labor, besides a great saving in the waste of grain.

Yours &c. F. P. ROOT.

I saw the aforesaid, Seymour & Morgan's Improved Reaper, in F. P. Root's harvest field and do concur in the foregoing statement.

WM. ROOT, ESQ.
D. H. ROOT.

I have seen the Machine work in very heavy, and also in wet wheat where it performed well, and believe it to be an improvement upon McCormick's Reaper. There was no clogging, as in the case of McCormick's and it must be a good machine if well made.

NATHAN LOCKE.

BROCKPORT, NOV. 13, 1849.

Messrs. Seymour & Morgan:—Gents—I used one of our Improved Reapers in my harvest, which worked better than any I have seen before used—cutting wheat when there is much grass, without choking, which other machines that I have used would not do—I have had much experience with Reapers—having purchased the first one of McCormick's brought to this State. I have since put a large number of McCormick's in operation at the West, and believe yours to be the most perfect Reaper now in use.

A. CHAPPELL.

I used one of Messrs. Seymour & Morgan's Reapers last harvest, and cheerfully recommend it to Farmers as the best machine within my knowledge for cutting grain. GEO. H. ALLEN.

BROCKPORT, NOV. 13, 1849.

This may certify that I used in my harvest of 1849, Seymour & Morgan's Improved Reaper, which worked to my entire satisfaction; cutting grain in all conditions. I believe it cannot be clogged in either grassy or green wheat. I have witnessed the operation of other Reapers now in common use and I believe it to be superior to any that I have seen—cutting wet or grassy wheat where other Reapers cannot. F. W. BREWSTER.

BROCKPORT, NOV. 12, 1849.

We have seen the trial of Seymour & Morgan's Improved Reaper in the harvest of F. W. Brewster—and having witnesed the operaton of other Reapers, we believe this the most perfect machine now in use

J. A. HOLMES, ALLEC POTTER,
D. A. WHITE, W. THEO. DOWNS,
MORGAN RANDLE, O. A. ROYCE.

A Rare Chance.

THE subscriber offers at private sale, or in exchange for serviceable horses or mares, to dispose of his splendid bay colt of the Surprise stock. His connection and interest in the Norman horse make it desirable to be free from this charge. This stallion is nearly five years old, has very superior colts, and from his size, appearance, and muscular development, promises much. Communications may be directed to Robt. B. Howland, Union Springs, Cayuga Co, N. Y. [3-2t]

JUST PUBLISHED,

BY DERBY, MILLER AND CO., AUBURN,

THE AMERICAN FRUIT CULTURIST,

BY J. J THOMAS.

CONTAINING directions for the propagation and culture of Fruit Trees, in the Nursery, Orchard, and Garden, with descriptions of the principal American and Foreign varieties, cultivated in the United States. By J. J. THOMAS. One volume 12 mo. of over 400 pages. With 300 accurate illustrations.—Price $ 1,00

NOTICES OF THE PRESS.

"Among all the writers on fruits, we do not know of one who is Mr. Thomas's superior, if his equal, in condensing important matter. He gets right at the pith of the thing—he gives you that which you wish to know at once; stripped of all useless talk and twattle. No man has a keener eye for the best ways of doing things. Hence we always look into his writings with the assurance that we shall find something new, or some improvement on the old; and we are seldom disappointed

This book is no exception. It is *full*. There is no vacant space in it. It is like a fresh egg—all good, and packed to the shell-full."—*Prarie Farmer*.

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February 1, 1850. [2-3t.]

FRESH GARDEN SEEDS, IMPLEMENTS, &c.

RAPALJE & BRIGGS respectfully invite the attention of dealers in Garden Seeds to the stock they are now receiving at their Agricultural Warehouse and Seed Store, consisting in part of the following sorts:—

Beets, sorts; Broccolis; Cauliflowers; Cabbages, sorts; Carrots, sorts; Celery; Cress; Cucumbers, sorts; Lettuces, sorts; Melons, sorts; Onions, sorts; Peppers; Pumpkins; Radishes sorts; Spinages; Tomatoes; Turnips; Early and Late Peas; Dwarf and Pole Beans; Early and Sweet Boiling Corn, Flower Seeds, &c.

The above seeds being raised expressly for us during the last season, by faithful and experienced Seed Growers, we have perfect confidence in offering them to the public.

SEED GRAIN.—One of the most important cares of the farmer, is the judicious selection of his Seed Grain; and in order that that care may be lightened, and that we may be able to furnish Seed of the best quality, and well adapted to this climate, we have had selected for us, of the following sorts, such Seed as we feel confident will give perfect satisfaction to all:—Black Sea Spring Wheat, Italian do. do., Siberian do. do., Spring Rye, Barley, Bedford Oats, Buckwheat, and many choice varieties of Corn. Also, an extensive assortment of Garden and Grass Seeds.

Our stock of SEEDS is now the most complete and extensive in the country, having received from London, the past winter, immense quantities of *Turnep, Cabbage Seed, &c*.

We have also, at our Warehouse, the largest and best assortment of Agricultural Implements in the State, consisting of Thrashing Machines, Reapers, Corn Shellers, Straw and Stalk Cutters, Horse Powers, Water Rams, Plows, Hoes, Spades, Forks, Pruning Saws and Knives, Churns, Harrows, Rakes Drilling Machines, in short, every article used by the Farmer, the Gardener, or the Horticulturist, from an Apple-Pearer to a Saw-Mill.

We ask every Farmer who needs *Seed* or *Tools*, to give us a call, at our Warehouse in Rochester, nearly opposite the Eagle Hotel, on Buffalo street, where we think we can satisfy all that our stock and prices are right. RAPALJE & BRIGGS.

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THREE Months Extra Pay and One Hundred and Sixty Acres of Land will be procured for all who enlisted for five years, or during the War of 1812, and for, all including Volunteers who served in Mexico, and for the heirs of all who have died in the service.

Information will be given to relatives, Free of Charge, by writing to

G. F. LEWIS,
Detroit, Michigan
Postage Paid.

Those who do not know what became of their friends, write when and where they joined the army. [2-3t]

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Emery's Albany Seed Planter, for Hand or Horse Power.

THIS is acknowledged to be the best Seed and Corn Planter in use. This is the fourth season they have been made, and upwards of two hundred and fifty have been ordered already for the coming spring use. As they are all warranted, and having been thoroughly tested and pretty generally introduced, the farmer desiring to plant the amount of half an acre of root crops or fifteen acres of corn, can well afford to purchase, and risk nothing in trying one. Price $14. For description, &c., see catalogue of Albany Agricultural Warehouse and Seedstore, No. 369, and 371 Broadway, Albany. H. L. EMERY.

The Morgan Horse Major Gifford

WILL stand the ensuing season, on Mondays, Tuesdays, and Wednesdays, at the stable of E. W. Sheldon, Sennett; on Thursdays and Fridays at the stable of S. B. Rowe, Camillus; and on Saturdays at the stable of John C. Munro, Bellisle.

Major Gifford is seven years old this spring; his color is a beautiful chestnut. He was sired by the Gifford Morgan, his dam a pure Morgan. Breeders of good horses are invited to call and see him.

TERMS—Ten dollars to insure. Pasturage furnished. Accidents and escapes at the risk of the owners.

April 1, 1850. [4-3t*] MASON & CO.

Young Morgan Tiger and Samson Chief

WILL be kept the ensuing season as follows:—On Mondays, Tuesdays, Wednesdays, and Thursdays, at the stable of the subscriber, two miles southeast of Clyde; on Fridays and Saturdays, at the stable of J. Landon, in Lyons.

PEDIGREE—Young Morgan Tiger was sired by the celebrated horse Morgan Tiger, formerly owned by Dr. Wm. May of Palmyra. Samson Chief was sired by the imported Samson, imported by John Robinson of Palmyra.

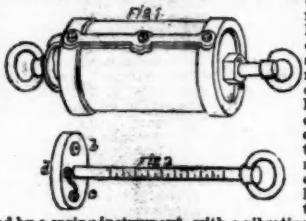
TERMS—Eight dollars to insure a foal. All persons parting with their mares before foaling time will be held responsible for the insurance money. Good pasture will be furnished for mares from a distance at two shillings and six pence per week. All escapes and accidents at the risk of the owner.

Breeders of good horses are invited to call and see them and their stock. ☞ Young Morgan is a bright bay, coming five years old, sixteen hands high, and well proportioned. He was awarded the first premium at the Wayne County Fair held at Rose Valley in October, 1849. Samson was awarded the first premium as being the best three years old stallion exhibited, at the same place and time.

April 1, 1850. [4-2t*] ISAAC M. GILLETT.

Emery's Cylinder Dynamometer.

THE subscriber having long been interested in the manufacturing and vending of plows, and having attended annually several plowing matches, as well as trials of plows, both in Massachusetts and N. York, for the last nine years, he has as often seen the difficulties in deciding and determining the relative merits of the competitor's plows, and he has as often declined entering in a test trial of plows. And too often the one item of EASE OF DRAFT has been considered the greatest excellence in a plow, and that usually determined by a spring instrument, with a vibrating index ranging from 1 pound to 1000 pounds, and affected by every variation in speed of team and obstructions met in its progress. He has long endeavored to construct an instrument for this purpose, and at considerable expense and time has succeeded in producing one, which if not perfect, is as nearly so as can be desired by the most particular. In the above cut, figure 1 represents the instrument complete. Figure 2 represents the piston detached, showing the popet valve, orifice for the fluid, and gradustions on the piston rod.



Agricultural societies and manufacturers of plows, and others, wishing one of these instruments, can obtain them by addressing H. L. EMERY, Albany Agricultural Warehouse, Nos. 369 and 371 Broadway, Albany, N. Y.

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☞ All communications (post-paid) will receive prompt attention. Direct to me at Ontario, Wayne, Co. N. Y.

[4-3t] J. W. SHERMAN.

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December, 1849. *Rochester, New York*

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